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The **CHEMIST AND DRUGGIST**

ANNUAL SPECIAL ISSUE

Trade Mark - p. 732.

JUNE 28 1958

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from the start



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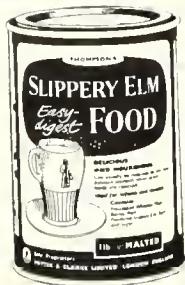
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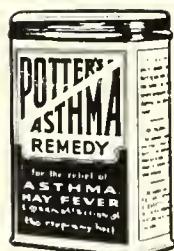
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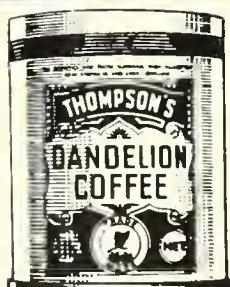
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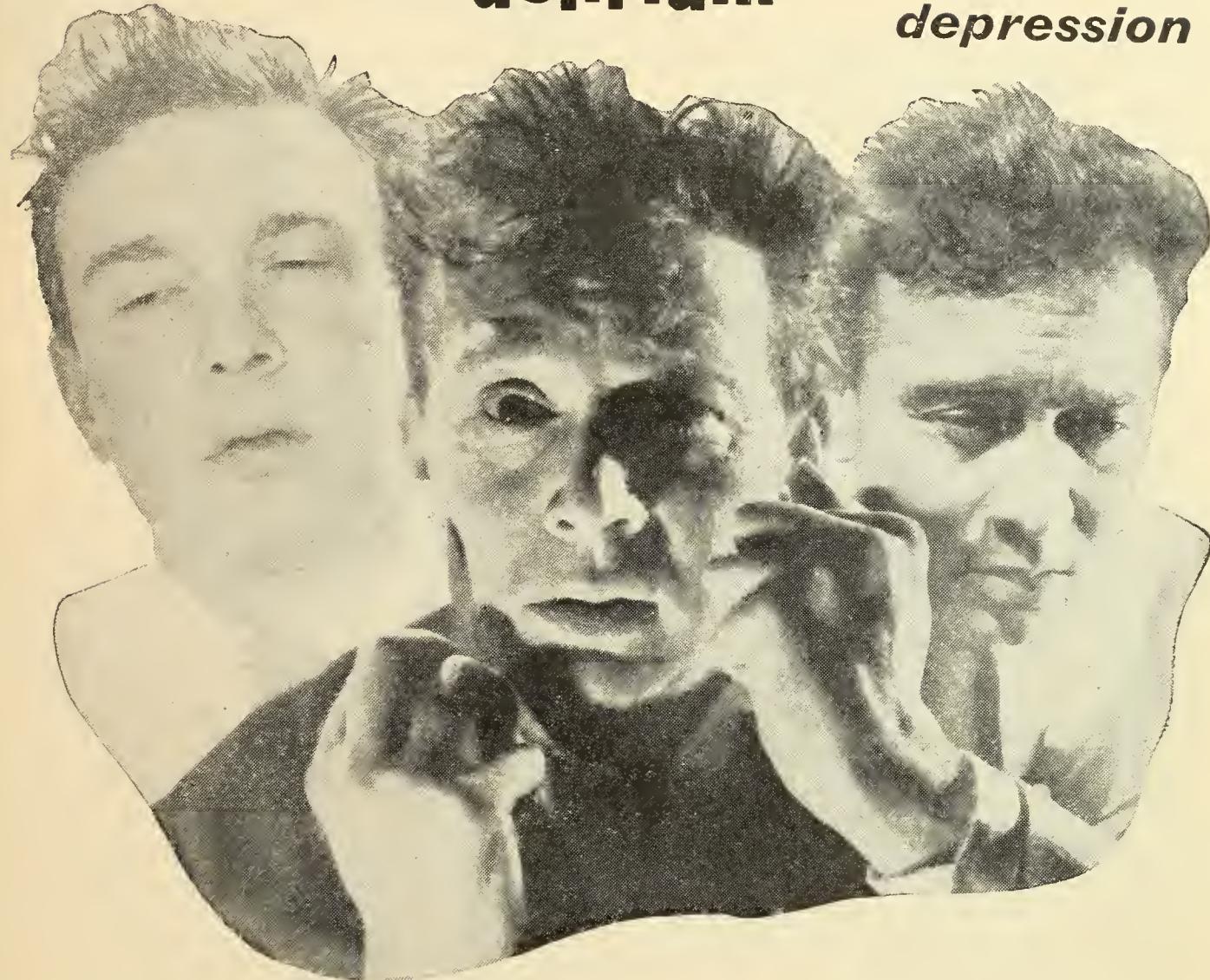
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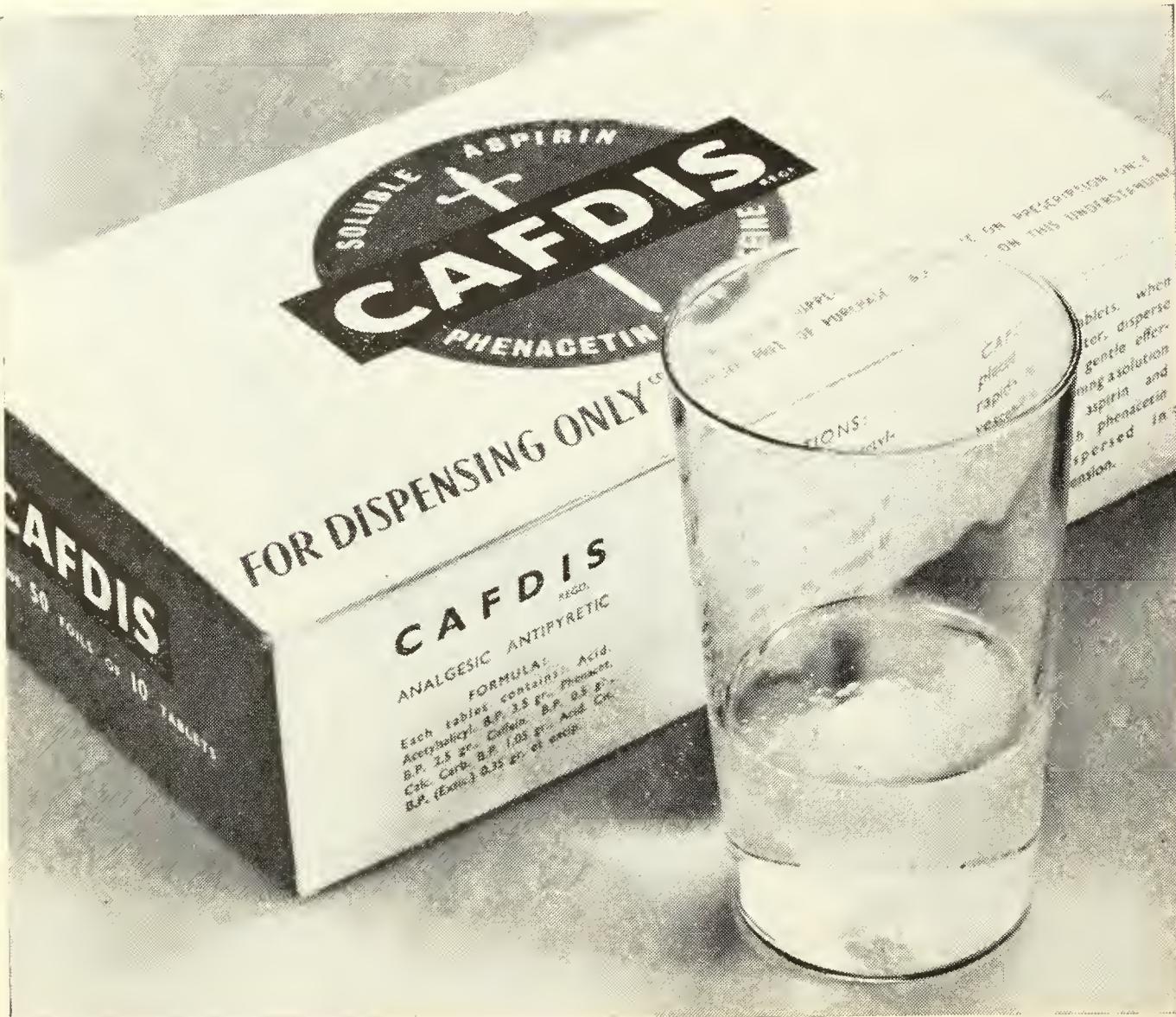
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The aspirin in Cafdis is solubilised in the same way as in Codis and Solprin. In water, the phenacetin is in fine suspension while the aspirin and caffeine go into solution. This means that there is far less risk of gastric irritation with Cafdis than with other APCs.

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The undisputed fact that "prevention is better than cure" is well recognised by the many thousands who find protection in the use of Mycil Powder.

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SOAPLESS

Made in England

Specially prepared for the removal of Scurf and Dandruff.
THE IDEAL SHAMPOO FOR USE PRIOR TO PERMANENT WAVING

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High profit margin . . .

Dr. WERNET'S POWDER

The best-seller in Denture Fixatives

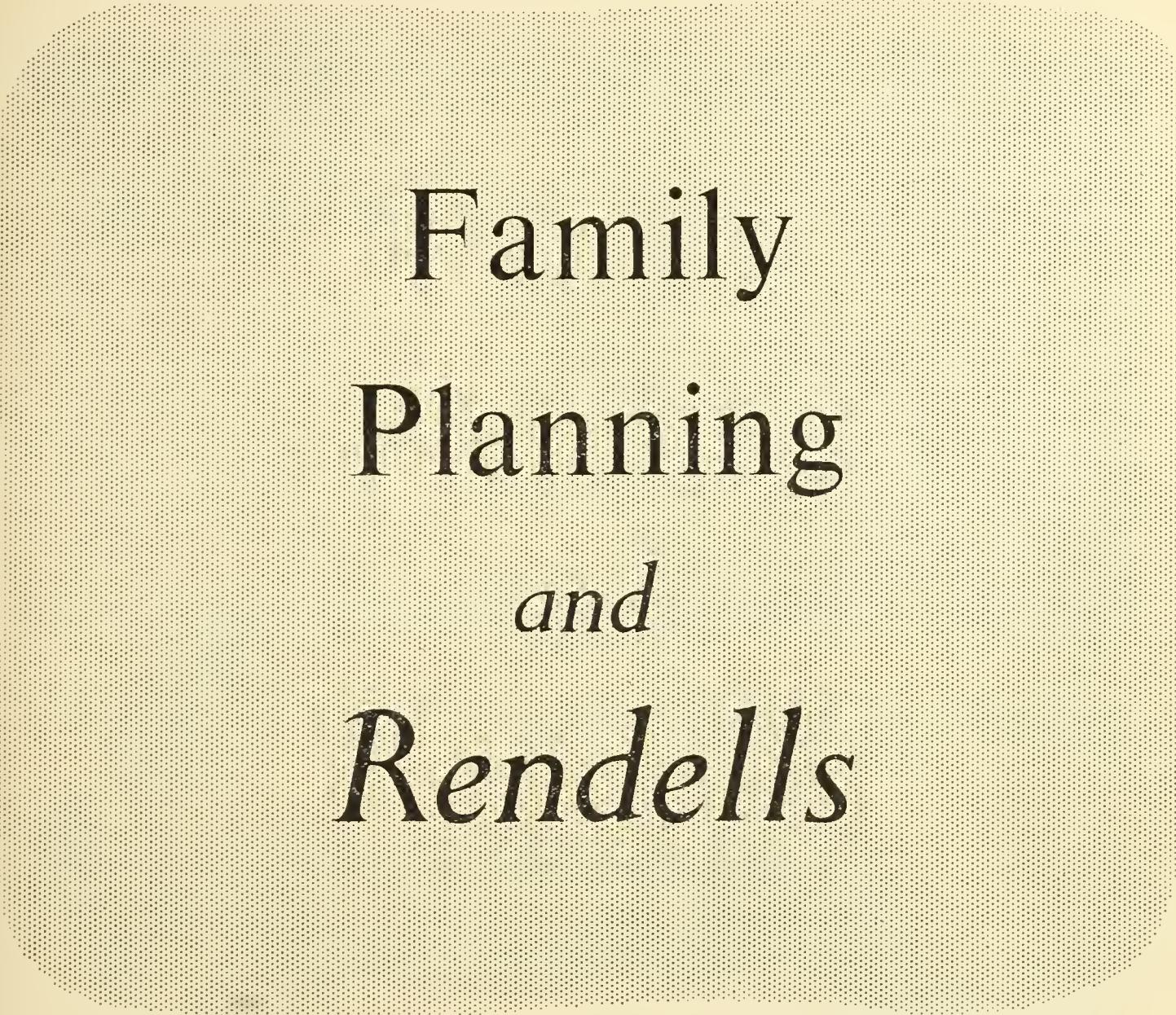
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"Nylastik" offer greater support and comfort to every woman who is advised lightweight surgical hose . . . yet they spare her the embarrassment of revealing that she wears elastic stockings!

EXCLUSIVE & OUTSTANDING FEATURES

NEW FABRIC. A special "balance" of nylon and elastic yarn has achieved greater compression and support, with increased comfort for the patient and greater durability. Yet they remain undetected in wear

CRIMPED NYLON WELT. A new developed process introduces an extra girthwise stretch to the welt, with improved fit and comfort at thigh.

SPLICED HEEL AND FOOT. Specially designed to improve the durability at these wearing points, and improve fitting qualities.

FULL-FOOTED. The foot of each stocking is accurately shaped in crimped nylon to provide roomy comfort for all the toes . . .

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Sizes: 8½, 9, 9½, 10, 10½ (usual stocking sizes)

Suggested order to meet immediate demand : 1 PAIR EACH of 5 SIZES

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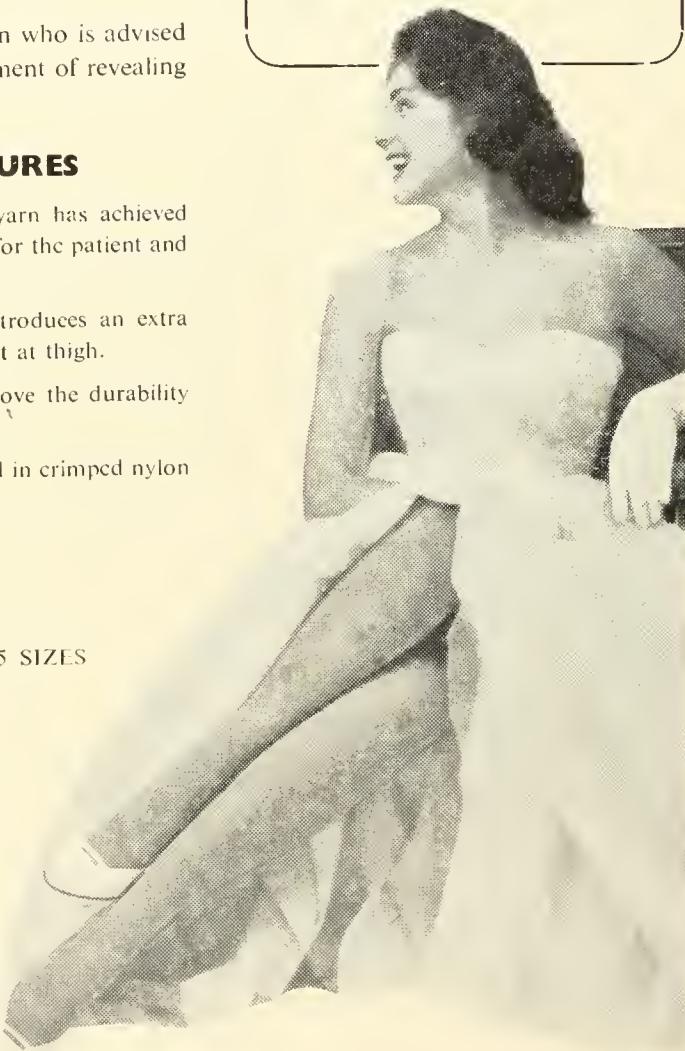
Please send Stock order of 5 pairs of Scholl NYLASTIK, nylon elastic yarn (lightweight) stockings, 1 pair each size.

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"I get wonderful comfort with Nylastik . . . and never feel self-conscious about my legs"



Scholl

Nylastik

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Richard Daniel & Son

Proprietaries
SUNDRIES DRUGS
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*Manufacturing
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Samples of own-name printed satchels and dispensing cartons on request.



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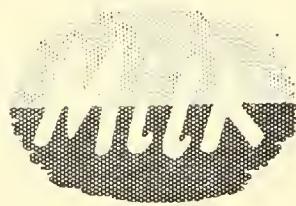
PORLAND MILL, ASHTON-UNDER-LYNE, LANCs
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ASHton 4422 (10 lines).
BISHOPSGATE 4809 (2 lines).

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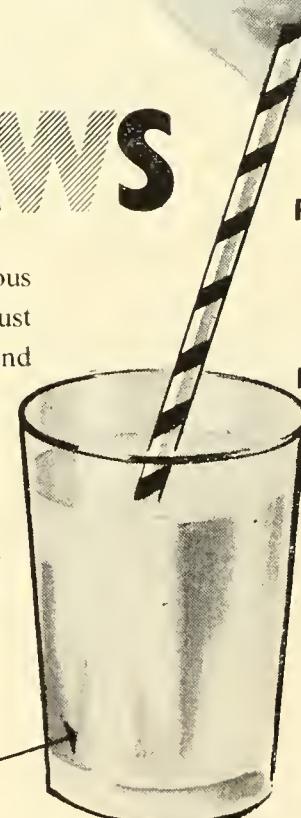
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happens to



WITH Instant
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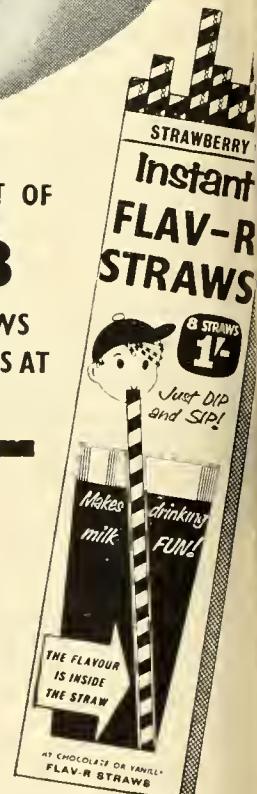
THESE are the magic straws that make milk into a delicious milk-shake . . . instantly. The flavour's in the straw! Just dip the gay striped straw in a glass of cold milk and —presto!—the milk is a full-flavoured coloured shake.

**CHOCOLATE
STRAWBERRY
FLAVOURS**



PACKET OF
8
STRAWS
RETAILS AT

1/-



FLAV-R STRAWS LIMITED are exclusively entitled to manufacture and sell in the U.K. flavoured drinking straws

COVERED BY BRITISH PATENT 789766

APPROVED BY THE MILK MARKETING BOARD

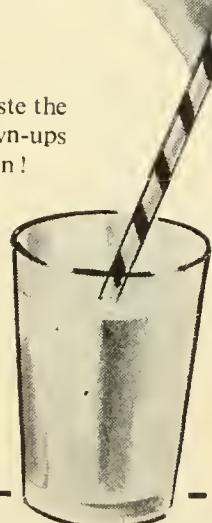
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Instant
FLAV-R STRAWS
Now!**

INSTANT FLAV-R STRAWS will sell on sight! Children love to see and taste the milk shakes they make themselves with Instant Flav-R Straws. Grown-ups can't resist them either. Instant Flav-R Straws make drinking milk fun!

Flav-R Straws have had a wonderful selling success in the U.S.! There's a big future for flavoured straws in this country. And the future is all with Instant Flav-R Straws—the flavoured straws covered by an *exclusive* manufacturing and selling patent.

So get in quick with Instant Flav-R Straws—the high-profit fast-turnover line that will sell on sight. Be among the first to stock Instant Flav-R Straws by filling in the coupon below.

Each case contains 3 bright, space-saving dispensers for your counter display. 24 packets in each dispenser. 8 straws in a packet.



PRICE TO YOU

50/- A CASE

RETAILS AT

72/- A CASE

YOUR PROFIT

22/- A CASE

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Send it to FLAV-R STRAWS LTD. 21 Maddox St. London W1

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1 case contains 3 counter dispensers each holding 24 packets of Instant Flav-R Straws.

TERMS: Price to retailers 50/- a case.

Retail selling price: one packet of 8 straws 1/- profit yield on selling: over 30% inquiries from wholesalers welcomed.

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ADDRESS.....

CDI.....

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For nearly half a century the name Carnegies has served as a standard in the fine chemical field for products of utmost purity and rigid adherence to pharmaceutical specification. Direct importation of raw materials, and the completion of every process under our own roof at Welwyn Garden City, enables us to compete successfully with world suppliers in any part of the globe. Yet we welcome and treat with equal importance the smaller orders too.

CARNEGIES OF WELWYN LTD.
Welwyn Garden City, Hertfordshire, England.

Phone: WELWYN GARDEN 5001 (10 lines)
Cables: CARNEGIES, WELWYNGARDENCITY
Telex: LONDON 28676

New foot comfort with



medicated FOOT POWDER

In summer, most people need foot comfort. At the same time, many need protection from foot infections—especially Athlete's Foot. STRIDE medicated foot powder is prepared to meet *both* these needs effectively. And STRIDE is introduced at the right moment for maximum sales.

Stride offers these benefits

STRIDE relieves hot, sore, tired feet, cracked and moist skin conditions. STRIDE absorbs perspiration and is a deodorant. And STRIDE protects against infections. For easy use, STRIDE comes in a polythene puffer pack.

Stride contains

Chlorphenesin and hexachlorophene in a smooth, light powder base.

Stride display material

STRIDE is ready to display in an attractive 6-pack carton. Give your stock extra support with the showcard and crowner—they're both designed for big impact in a small amount of your space.

Stride prices and BONUS TERMS

Trade - - - - 2 2d, excluding purchase tax

Retail - - - - 3 9d, including purchase tax

BONUS: Direct orders placed before July 12th qualify for a special introductory bonus of one free pack of STRIDE, with every six ordered.



THE BRITISH DRUG HOUSES LTD., LONDON, N.1.

When Geigy was 175 years old

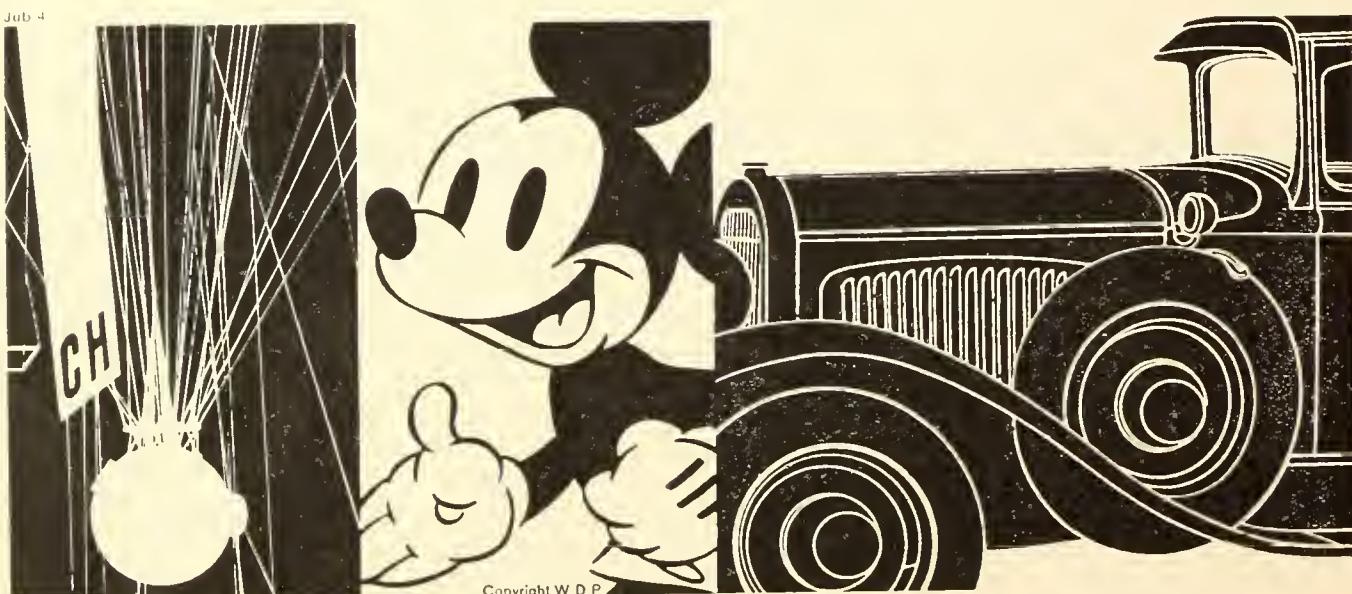
It was the period between World Wars. Remember? Repercussions of the Wall Street crash were being felt all over the world. Roosevelt was President of the United States. Europe was under the dictators. In Germany the first autobahns were built. Gandhi was active in India. Bernard Shaw was writing political satires. Modern painting meant Picasso. Great hopes were built on the Zeppelin airship as a means of travel. Walt Disney had invented Mickey Mouse. It was two years since the completion of the Empire State Building in New York. Ortega y Gasset had published his Revolt of the Masses. The first synthetic textile fibres had been invented, the first radioactive substances were soon to be artificially produced. Professor Piccard reached the stratosphere in his balloon.

1933

In 1933 Geigy, one of the oldest firms in the world, was entering an entirely new field of research.

The way led from synthetic dyes to textile finishes and so to mothproofing. From there it was a short step to pesticides in general — and the world-famous DDT insecticides in particular. Out of biological and medical problems involved came the first Geigy pharmaceutical specialities.

As an international organization Geigy today sells dyestuffs, pigments and tanning materials, industrial chemicals, plasticisers, pesticides and pharmaceuticals in most countries of the world. In the field of organic chemicals the name of Geigy is a mark of quality.



200 years

Geigy

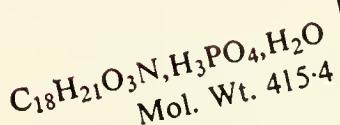
FRESH PAGE....

Fresh in appearance and sensibly arranged, T. & H. Smith's new Specification Book makes impressive reading. Over 100 chemicals and pharmaceutical preparations are described with a clarity that will appeal to regular user and intending purchaser alike. Behind the printed word is a great tradition of service, geared to modern needs and conditions. Every page reflects the stringent measures taken to ensure unwavering quality of product.

Copies of this publication are available on request from T. & H. Smith Ltd., Blandfield Chemical Works, Edinburgh 11.

SMITH
OF EDINBURGH

T. & H. SMITH LTD



Codeine Phosphate is the prepared by methylation

Description	White crystalline p
Solubility	Soluble at 20°, in sparingly soluble
Solution	A solution of 1 C from extraneous
Reaction	A solution in w 0.5 G. complie
Chloride	0.5 G. complie
Sulphate	To 5 ml. of a of a 1 per ce fifteen minu colour of t 0.002 per acid is sir
Morphine	When dr and not more th It cont referen 0.20 to 0.30 t Sho Coc unta C
Loss on Drying	
Assay	
Bulk Density	
Packing Density	
Storage	
Action and Uses	
Dose	
Synonyms	
Formulary	
Supply	

Keep an eye on -

**Recommend it
with assurance for
Eye Strain, Tired Eyes,
Inflammation etc.**

Retails at **2¹/₂D** per bottle

(Including Eye Bath)

Cost Price 18/- per dozen
Plus 5/5 P.T.

LARGE SIZE
10 OZS.

4/- per bottle

Cost Price 28/- per dozen
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Packed in
DISPLAY OUTERS

each containing
Six Bottles . . . →
Also available
ATTRACTIVE SHOWCARD



'ILOX'
EYE BATHS
are also packed
individually.
Carton retailing
at 1¹/₂D each.
Cost per doz.
10/- plus 1/6
P.T.



Also 'ILOX'
GOLDEN EYE OINTMENT
Retails 1/3 per tube
Costs 10/- per doz.



EYE LOTION



Prepared by

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ROYal 2380

June 28, 1958

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EYE OINTMENTS · SUPPOSITORIES · PESSARIES · CAPSULES · ETC.

SPECIAL FORMULAE PREPARED
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HOME & EXPORT ENQUIRIES INVITED

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GELATINE CAPSULES

... by the
most modern
encapsulating
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The Mark..



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Uniformity,
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the basis of chemical quality



The introduction and development in the past five years of the 'BISOMEL' range of cosmetics ingredients have set new and stable standards of high quality for this class of chemical. Processed and packed with the stringent requirements of the cosmetics industry always in mind, 'BISOMEL' products are already the preferred materials for cosmetics manufacture in most major countries.

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- 1st Prize a family car, approx. value £850.
- 2nd Prize a Hi-Fi Radiogram, approx. value £150.
- 3rd Prize a branded Washing Machine with Spin Dryer, approx. value £100.
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- 6th Prize Voucher for Linen to the value of £25.
- And many "Fivers"

To the shop from which we receive the most Entry Forms, WINNING or NOT,

1st PRIZE £100 2nd PRIZE £50 3rd PRIZE £25

FOR YOU

- TO THE CHEMIST WITH THE WINNING ENTRY, £150 CASH.
- " " ASSISTANT (OR ASSISTANTS) £50.
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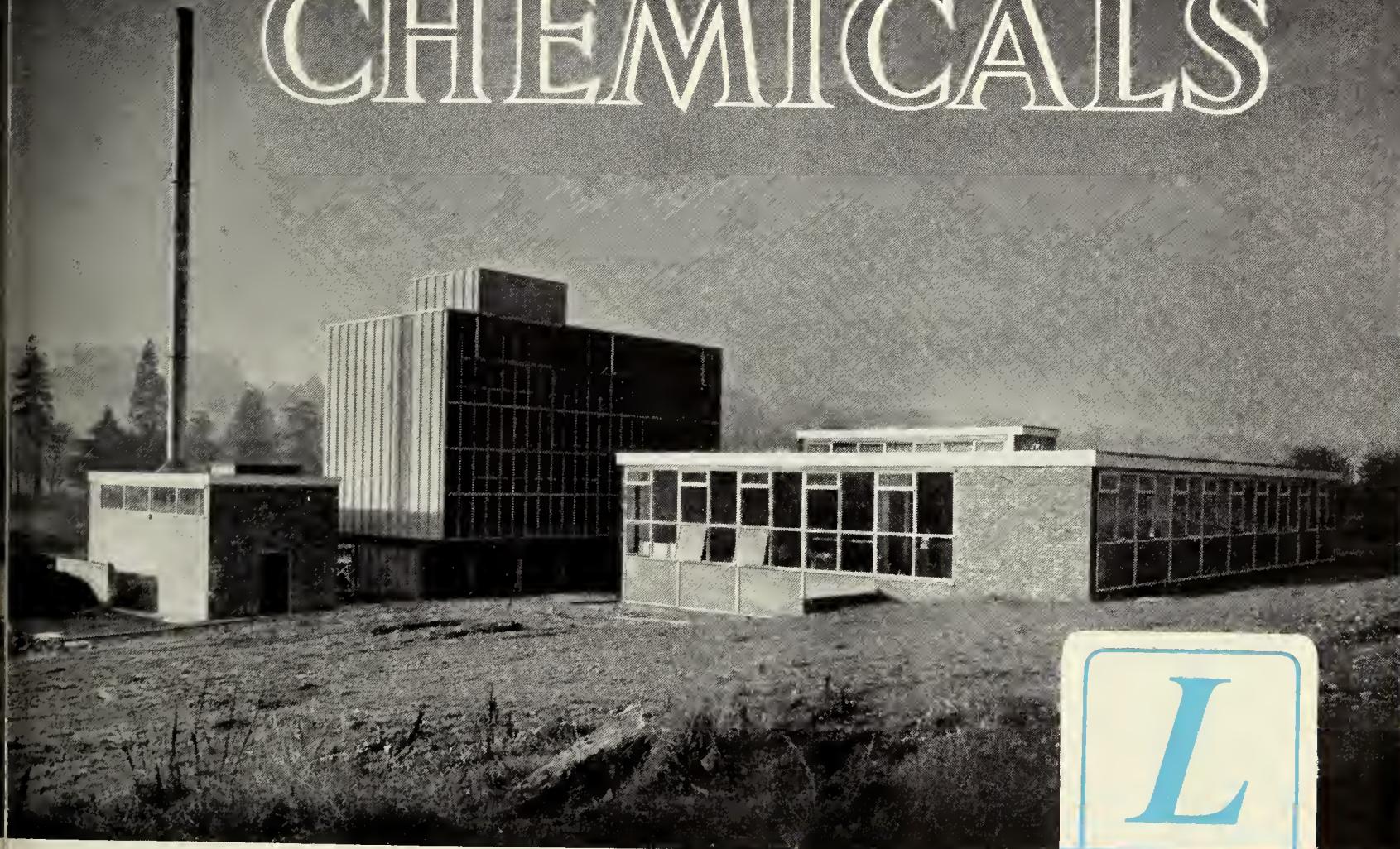
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THE ENTRY
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DIGITOXIN, EPHEDRINE, ERGOTAMINE, QUININE,
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*For
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service*

First Class in GLASS



DISPENSING FLATS 1 oz. to 20 oz.

RIBBED OVALS $\frac{1}{2}$ oz. to 20 oz.

BOW PANELS 1 oz. to 16 oz.

OLIVE OILS $2\frac{1}{2}$ oz. to 10 oz.
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A NEW MARKET IN HAIR COLOURING!

Thousands of Women with **GREYING HAIR...**



are turning to Brown-Glo

**. . . the new harmless semi-permanent colouring
that restores completely natural colour**

At last, women with unwanted greying hair can buy a hair colouring that will conceal their grey hairs absolutely naturally, and has all the following reassuring advantages.

It is not a dye—not a rinse.

It is absolutely harmless and foolproof.

It survives shampooing and the effects last 4 to 5 weeks before requiring renewing.

Although it conceals her greying hair, the user still retains her natural colouring.

Because it is semi-permanent, she can return to her natural grey.

Brown-Glo cannot rub off on clothes or pillows or run when wet.

It's good for the hair—improves its condition.

It does not affect permanent waving.

BROWN-GLO is available in six natural shades:

MID BROWN • MID WARM BROWN

DARK BROWN • DARK WARM BROWN

LIGHT BROWN • LIGHT GOLDEN BROWN

Recommend the shade nearest to your customer's natural hair colour.

New trade price 29/9 per doz. plus 60% tax. Retails at 5/3 per tube.

Packed in a tube inside an individual display carton with instruction leaflet and sponge applicator.

Powerful advertising directed at the 12 million women with greying hair will create a big demand for BROWN-GLO

**Users will go on buying
Brown-Glo every 4-5 weeks**

Order from your wholesaler now!

A creation of



L'ORÉAL · PARIS

Brown-Glo
(Sister Product of Color-Glo)
SEMI-PERMANENT COLOURING

**Colours Greying Hair
to a natural shade of Brown**



GOLDEN LTD. · 7 GROSVENOR STREET · LONDON W.1. · HYDE PARK 1671

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METHYLENE DITANNIN

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CASCARA SAGRADA GRAN

THE BRITISH DYEWOOD CO., LTD.

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GALLIC ACID

PURE AND TECHNICAL

PYROGALLIC ACID

RESUBLIMED - PURE - TECHNICAL

EPHEDRINE

QUININE

Manufactured by

J. L. ROSE, LTD.

FRESH WHARF, HIGHBRIDGE ROAD, BARKING, ESSEX

Telephone—
RIPpleway 2763

Telegrams—
“ Gallic, Barking ”



**Summer has set in
with its usual
severity...**

(Coleridge 1862)

At this time of the year airborne pollen brings acute discomfort to many people. Pabracort Insufflations have proved their value in the treatment of Hay Fever by clinical trial and in general practice. Dramatic relief is usually obtained within two or three days and complete alleviation after two weeks treatment.

Reference: *Lancet* (1956) i., 537.
Lancet (1955) i., 234.
Proc. S.M., Mayo Clinic
vol. 39, No. 22, 30.10.1957

FORMULA Each insufflation capsule contains 15 mg. hydrocortisone acetate in a specially prepared snuff base.

PACKINGS Pabracort outfit (10 capsules and insufflator).
 Capsules: 10, 25, 100.

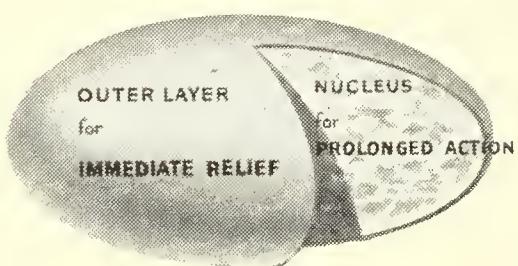
PABRACORT

INSUFFLATIONS

PAINES & BYRNE LTD.; PABYRN LABORATORIES, GREENFORD, MIDDX.



SILBE ASTHMA



A modern two-phase Asthma therapy

ISO-BRONCHISAN TABLETS

The unique action of Iso-Bronchisan tablets provides the asthmatic patient with *immediate* asthma control PLUS *prolonged* relief from symptoms. For *paediatric use* special tablets are available containing proportionately smaller quantities of the effective ingredients.

ADULT TABLETS

Tubes of 20 Retail 4/9d. Trade 3/7d.
Tubes of 100 Retail 21/4d. Trade 16/-

CHILDREN TABLETS

Tubes of 20 Retail 3/4d. Trade 2/6d.
Bottles of 100 Retail 14/8d. Trade 11/-

PRESCRIBABLE ON FORM E.C.10

SILBEPHYLLINE

An IMPROVED theophylline therapy specially indicated for Cardiac failure . . . Bronchospasm . . . Bronchial Asthma.

Silbephylle is a stable, soluble and neutral theophylline derivative (dihydroxypropyl theophylline). It has very definite advantages in administration and can be given by any route without side effects.

	Retail	Trade
Ampoules of 2cc in boxes of 6 and 50	7/7d. and 51/9d.	5/8d. and 38/10d.
Suppositories in boxes of 6 and 50	5/2d. and 34/6d.	3/10d. and 25/11d.
Tablets in packs of 24	5/2d.	3/10d.
Bottles of 100	14/8d.	11/-
Bottles of 500	71/9d.	53/10d.

PRESCRIBABLE ON FORM E.C.10



SILTEN LTD.

PREPARATIONS



SILBE ASTHMA TABLETS

Containing a combination of powerful bronchodilator agents, ephedrine, theophylline and calcium benzylphthalate, Silbe ASTHMA tablets are the preparation *par excellence* for prophylaxis and treatment.

	Retail	Trade
Pack of 8 tablets	1/10d.	1/6d.
Box of 24 tablets	4/4d.	3/6d.
Bottle of 80 tablets	12/11d.	10/4d.

(including P.T.)

SILBE ASTHMA INHALANT

Silbe ASTHMA Inhalant is a scientific preparation designed to give the most beneficial therapeutic response and provides immediate and long lasting relief from asthmatic attacks.

Bottle of $\frac{1}{2}$ oz. (21 grammes)

Retail 8/- Trade 5/-

SILBE Vest Pocket ATOMISER



Designed to give a specially fine mist, this highly-efficient nebulizer is extremely convenient to carry and easy to operate.

Although specially recommended for use with Silbe Asthma Inhalant, it can be used with any Inhalant.

Retail Price 9/- Trade Price 5/5

Other SILBE Atomisers are available and a trade discount of 40% is allowed on all models.

PRESCRIBABLE ON FORM E.C.10

SILTEN HOUSE, HATFIELD, HERTS.

Telephone: HATFIELD 3012

Agents for Eire: Wilcox, Jozeau & Co. Ltd., 18/19 Temple Bar, Dublin





• WHOLESALE
SERVICE
THROUGHOUT
THE SOUTH
OF ENGLAND

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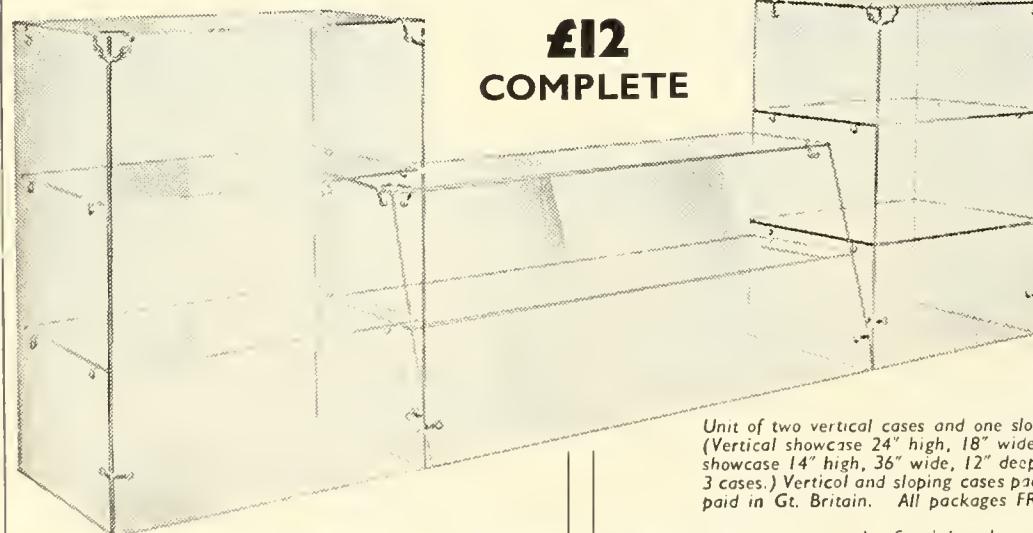
OF SOUTHAMPTON

HERBERT FERRYMAN LTD. Cobden Bridge, Southampton

Telephone 55641 (9 lines) Cables and Telegrams: FERRYMAN, SOUTHAMPTON
Code? Bentley's

It's crystal clear . . .

The more they SEE, the more they BUY



The beauty of a Martin glass display case is that it shows merchandise of every description to your customers' best advantage. Each individual case, with its gleaming chrome fittings, is tested and guaranteed before delivery. Choose a vertical or sloping showcase and build better business from the moment it is installed.

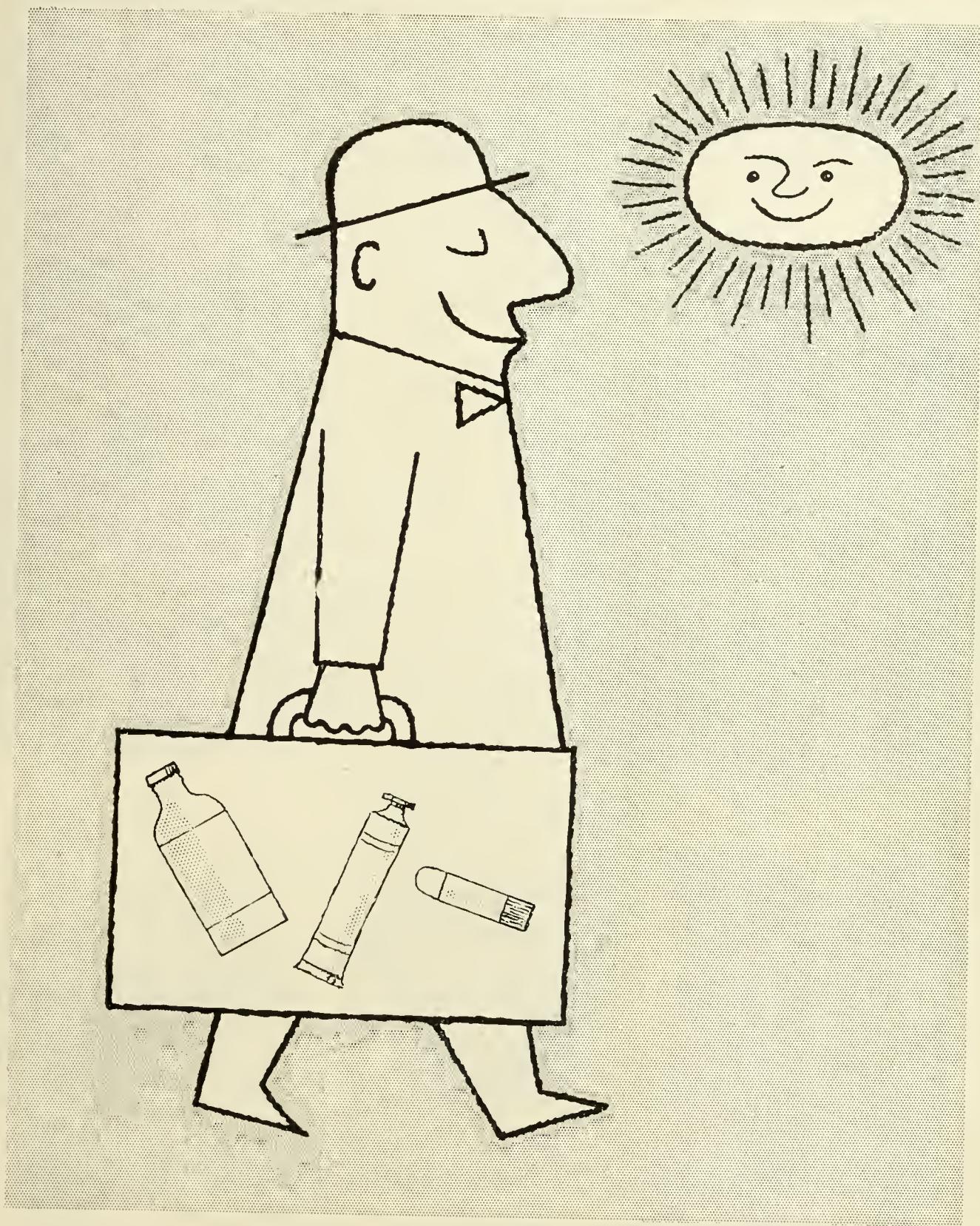
Unit of two vertical cases and one sloping case. Price per set £12. 0. 0. (Vertical showcase 24" high, 18" wide, 12" deep. Price £4. 5. 0. Sloping showcase 14" high, 36" wide, 12" deep. Price £4. 5. 0. You save 15/- on 3 cases.) Vertical and sloping cases packed separately. All prices carriage paid in Gt. Britain. All packages FREE of charge and NON-returnable.

★ Special orders to customers' own requirements carried out quickly. Quantity orders on application.

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LOOK INTO IT TODAY—EQUIP YOUR SHOP THE MODERN WAY! Send immediately for fully illustrated leaflet of Martin Display Cases and prices.

Name.....
Address.....
Post to: MARTIN DISPLAY (Dept. CD), 52 Market St., Watford, Herts. Tel: Watford 9287



A brighter outlook for your sales

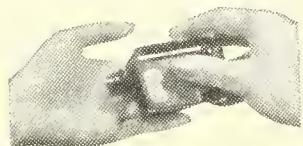
Neuro Phosphates - Benzedrex Inhaler - Eskamel



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GITA 38



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the medical problem
of DANDRUFF

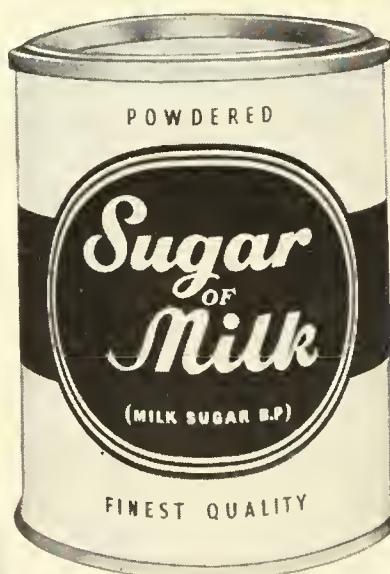
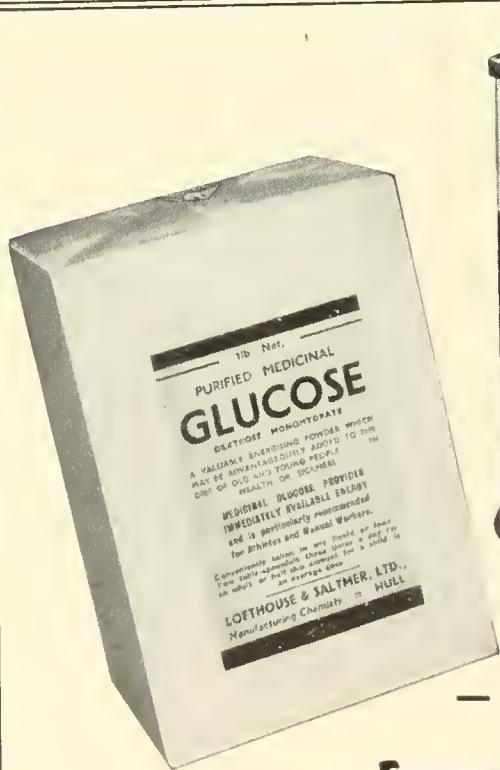
Abbott

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LABORATORIES LTD

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Tablets, Pills
— or Packed Goods

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Everything for the Chemist

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ALL IS NOT GOLD THAT GLITTERS but a well-designed polythene bottle will put gold in your coffers—especially if it is '**SKYLON'**

The above is an example of how the unusual can be achieved with a standard mould.

Because **FIBRENYLE LTD** are pioneers in the manufacture of polythene bottles and jars their 'know-how' is invaluable to those wishing to package in polythene. '**SKYLON**' Technical Representatives are available to help and advise.

ACORN 5073

157 DUKES ROAD, WESTERN AVENUE, LONDON, W.3.

"Glamorous Princess" NYLON DRESS OVERALLS

for your staff

IN THESE BEAUTIFUL SHADES

RUBY WINE

LAVENDER

APPLE GREEN

TURQUOISE

SAKE BLUE

PINK

SNOW WHITE

OUTSTANDING OFFER

3 OR MORE GARMENTS
5% CASH DISCOUNT
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POST FREE!

AS TELEVISED

GUARANTEED ...
SUPER HEAVY QUALITY
Non-Transparent
4 oz. NYLON



Will give your assistants a really smart appearance which in turn will bring business to you

Extremely popular with Staff!

**MENS
WHITE
NYLON
JACKET**

PLEASE NOTE THESE POINTS

- ★ No Laundry Bills
- ★ No Ironing necessary
- ★ Crisp, Fresh and attractive
- ★ Non-shrink and Colour fast
- ★ Sewn throughout with Nylon thread
- ★ All seams reinforced and heat sealed to prevent fraying
- ★ Will withstand the hardest of wear and dirtiest of jobs
- ★ When soiled simply wash and dry on specially designed hanger supplied FREE with each garment

39/-

Sizes:
Small Men's
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& Large Men's
Kindly State Chest Measurement

45/-

Sizes:
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Average Men's
& Large Men's
Kindly State Chest Measurement

Button through
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Flared Skirt
Tie Belt and
Spare Buttons

LONG SLEEVES
SIZES:
SW., W., WX.
OS. 5/- EXTRA
also
SHORT SLEEVES
45/-
PLEASE STATE
BUST MEASUREMENTS

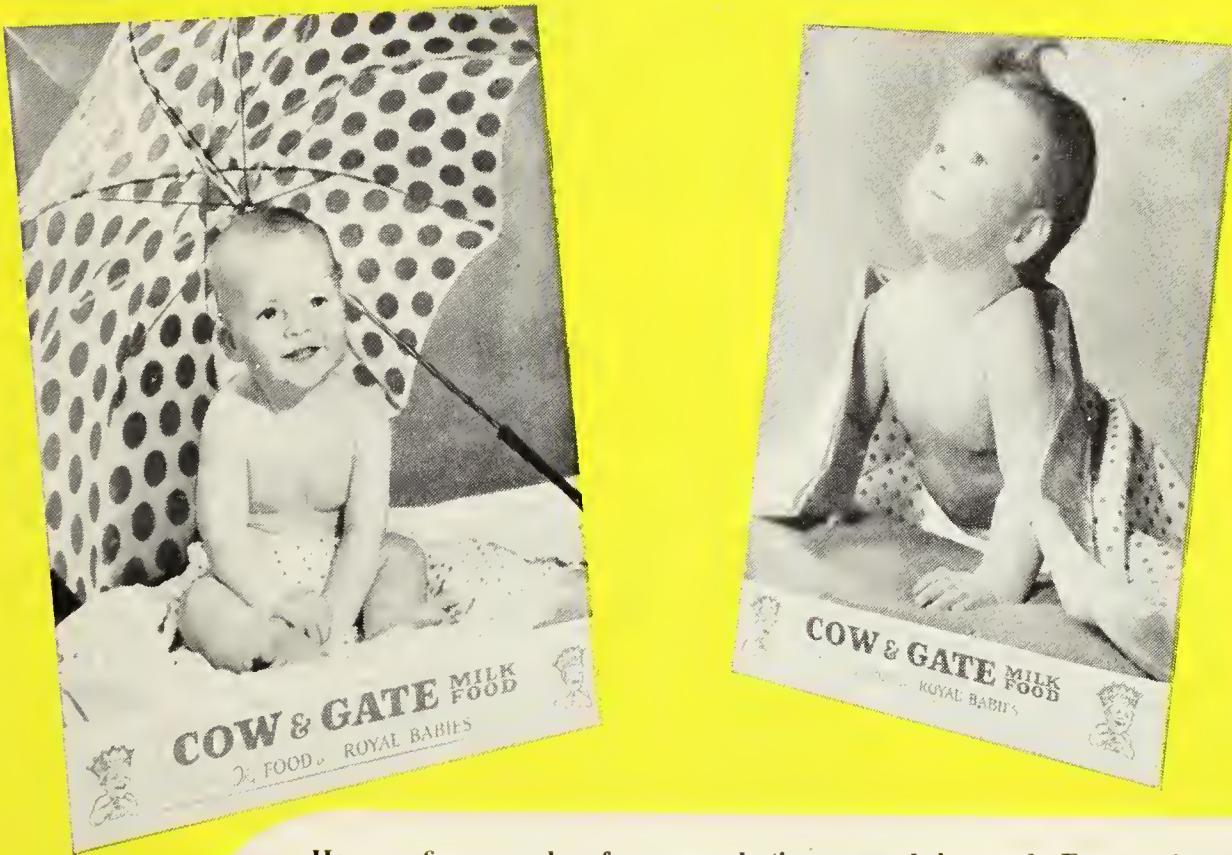
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YOUR COMPLETE
SATISFACTION

Direct from the Manufacturer to you

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Single Garments Post and Packing 2/-

Two or more Post Free

THE GREAT NATIONAL DIVIDEND STORES LIMITED
NATIONAL BUILDINGS • P.O. BOX 32 • STOCKPORT • CHESHIRE (MAIL ORDER ONLY)

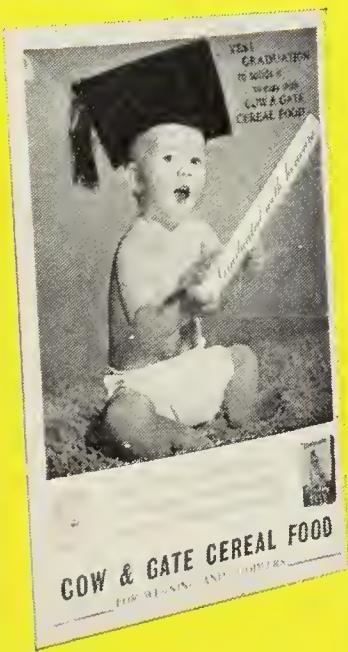


Here are five examples of our new plastic processed showcards. Four are in FULL colour and one in black and white and all are eye-catching, appealing and decorative and tie up with our ever-expanding current advertising campaign.

We shall be pleased to send you display matter if you will let us know your requirements. Attractive "G" Brand Showcards are also available.

Please address your enquiries to :

COW & GATE LTD. (DEPT. CD), GUILDFORD, SURREY





JOHN RONALDSON & CO. LTD.

Established 1860

3/4 CROOKED LANE
CANNON STREET, LONDON, E.C.4

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Importers & Exporters
for over 90 years of:-

HERBS, ROOTS, BARKS, BALSAMS, GUMS, SPICES,
SEEDS, RESINS, ESSENTIAL OILS, WAXES,
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We specialise in:-

SENNA
ALEXANDRIAN & TINNEVELLY
RAUWOLFIA
ALL VARIETIES

Strophanthus ★ Agar-agar
Menthol ★ Peppermint Oils
Senega ★ Ipecacuanha ★ Rhubarb
Gum Olibanum ★ Gum Benzoin

An eye for beauty

What the eye sees, the heart
can rejoice over. Glass containers,
moulded in distinctive forms, enhance the
attractions, while preserving the qualities,
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Glass, in fact, is the key to successful selling.
Key Glass represents the best in modern glass-making.
A design service is available to meet your particular
packaging problem, including closures.



Key Glassworks Ltd

Factories at New Cross · Alperton · Harlow
Sole Selling Agents: Ronald Gale & Co. Ltd.

First Class in GLASS

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For good
Medicines...

USE GOOD BOTTLES

UNITED GLASS BOTTLE MANUFACTURERS LIMITED

8 LEICESTER STREET, W.C.2

Telephone : GERRARD 8611 (23 lines). Telegrams : UNGLABOMAN, LESQUARE, LONDON

and now—

METAL BOX OFFERS



printed

POLYSTYRENE TUBES

The *colour printed* polystyrene tube is the latest aid to the sale of tablets. Direct printing in two colours on the surface of the tube replaces labelling entirely, and the tube presents an extra smart and attractive appearance on the sales counter. Polystyrene tubes are tough and light. Each is effectively sealed by a one-piece polythene stopper, easy to remove and easy to replace. For additional sales-appeal a wide range of coloured stoppers is available. Please ask today for samples and further details.



Pack your products in containers that will not be left on the bathroom shelf! Metal Box polystyrene tubes are attractive and *specially designed to be carried in the pocket or handbag.*



The Pillar Pack Stopper with the flexible prongs holds tablets gently in place, keeping them undamaged. No cotton wool is needed, no labour to insert it. The tube looks neat, clean and efficient. Pillar Pack Stoppers can be supplied with the $\frac{1}{16}'' \times 2\frac{1}{8}''$ tube, and are used by ICI for the Savlon pack featured in the main illustration.



THE METAL BOX COMPANY LIMITED

Plastics Group • 37 BAKER STREET • LONDON • W.1 • Hunter 5577

QUALITY
IN WHITE FLINT
GLASS CONTAINERS



*First Class
in GLASS*

- *Prompt delivery from stock*
- *Packed in easily handled cartons*

**NATIONAL GLASS
WORKS (YORK) LTD.**

FISHERGATE, YORK, Tel. YORK 23021
ALSO AT: 105 HATTON GARDEN, LONDON, E.C.I.
Tel. HOLBORN 2146

TRADE  MARK

WHOLESALE ONLY

DISPENSING BOTTLES

1-oz. to 20-oz.

RIBBED OVALS

½-oz. to 16-oz.

BOW-FRONT PANELS

1-oz. to 8-oz. and 16-oz.

OLIVE OIL BOTTLES

2½-oz., 5-oz. and 10-oz.

oval tablet bottles

Nos. 1 to 7½ sizes.

ROUND SCREW JARS

Tall and Semi-squat.

PANEL FLATS

1 oz. to 4-oz.

VIALS

½-oz. to 3-oz.

RECTANGULAR TABLET BOTTLES

Nos. 1, 2, 3, 4, 5 and 6 sizes.

scan for tired eyes so clearly a good seller!

A strong campaign on London Television—
timed to catch the big-sales holiday
period—

so clearly the best!

Scan advertisements will also
appear in the top-sales publications
—"TV Times" & "Radio Times"



Scan—in the popular, easy-to-use-anywhere dropper control tube, protected from dust with an attractive acetate case, can be a profitable line for you this summer.

remember-
Scan is a C.F. line

*Scan is packed in 1 doz.
tubes in this striking
counter display.*

BONUS OFFER ENDS JULY 5TH

Send your order now

13 to every dozen! Retail Price 2/- (inc. tax)
Trade Price 13/6 doz. (tax 30%). Total profit,
including bonus £4.18.8 on every gross.

Order from your usual wholesalers.
Agents: SANGERS LTD. and associates.
ALLCOCK PRODUCTS LIMITED, LIVERPOOL 20





Keep it **DARK**
with
SHADEINE

Still the best hair tint. In all natural shades.
Stocked by all Wholesalers. Trade prices:
1-oz., 24/9 per doz., 2-oz., 36/- per doz.
Purchase Tax 60%. Retail prices, 4/- and 5/9½
per bottle respectively.

Also the new GOLDEN SHADEINE for lightening mousey hair. 2-oz.
size at 24/9 per doz. Purchase Tax 60%. Retailing at 4/- per bottle.

THE SHADEINE COMPANY LTD.
49 CHURCHFIELD ROAD, ACTON, LONDON, W.3



Perfectly
Harmless

**YOUR
SALES
ARE
ASSURED
IF YOU STOCK
SHADEINE**

Hair Tint and Golden Shadeine

Do not
disappoint
your customers
—stock and display

askit

Powders and tablets for the safe and
speedy relief of headaches, colds, chills,
rheumatic and nerve pains.

EX ALL LEADING WHOLESALE HOUSES

CHILEAN IODINE

**NITRATE CORPORATION
OF CHILE LIMITED**

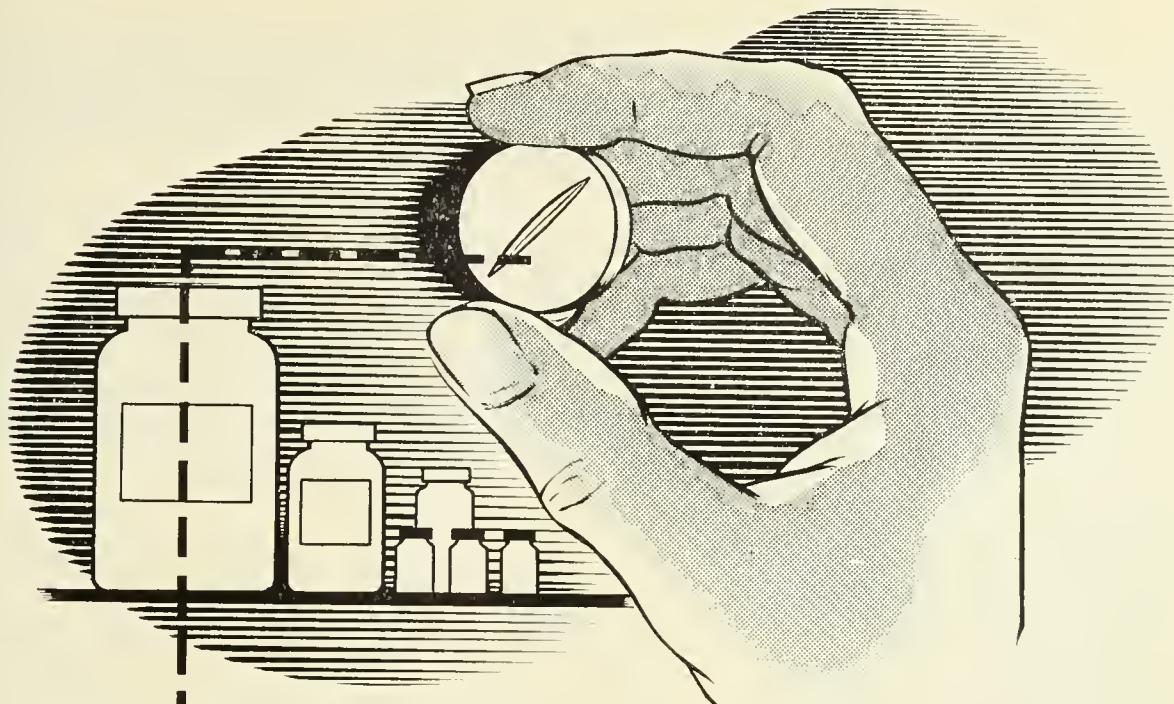
ANNOUNCE

that they will take over the
exclusive agency for the
sale of
CHILEAN IODINE
from

1st JULY, 1958

All enquiries should be addressed to :

NITRATE CORPORATION OF CHILE LTD.
CHILE HOUSE, 20-24 ROPEMAKER ST., LONDON, E.C.2



THOMPSON & CAPPER for TABLETS

We make tablets—good tablets.

When you buy tablets from Thompson & Capper you are getting tablets of the highest quality which have been carefully controlled at all stages of making.

Experimental and development work are on an absolutely confidential basis and part of our service.

Official tablets are always available, in small and large quantities and we specialise in Aspirin Tablets and Compound Codeine Tablets with "own name" labels.

We make
TABLETS

THOMPSON & CAPPER LTD.
MANUFACTURING CHEMISTS, SPEKE, LIVERPOOL, 19

Telephone: Hunts Cross 1321



CHANDAU

*the fastest selling
6d SHAMPOO*

PROVE IT . . .

PUT A BOX ON YOUR COUNTER

A Shampoo for every texture of hair.

LANOLIN · LEMON CREAM · COCONUT CHAMPAGNE · BEER · DANDRUFF.

I doz. of each type packed in self-selling Display Carton. Trade 40/- per gross plus Tax 30%.

Replacements available in 1 doz. packs of any one type.

Large size bottle (sufficient for 8 shampoos).

Retail 2/6 each. Trade 16/8 per doz. plus P/Tax.

PROFIT = 50% PLUS DISPLAY AND PARCEL DISCOUNT

From your wholesaler or direct from:

T. L. BENTON & CO. LTD., 186 Seven Sisters Road, London, N.7. Telephone: ARCHway 2674

Restrictive Trade Practices Act 1956
FIXED RETAIL PRICES 1/8—3/9 Including Purchase Tax
The maintenance of these prices is a condition of sale

**Dr. J. Collis Browne's
CHLORODYNE**

**SALE RESTRICTED
TO REGISTERED CHEMISTS**

Pharmacy and Poisons Act 1933

**PURCHASER'S SIGNATURE
NOT REQUIRED**

Sole Proprietors—

**J. T. DAVENPORT LTD.
Union St., London, S.E.1**

FOR OVER 100 YEARS

P.A.T.A.

*Since
1893.*

Importers and Exporters
of Botanical Materials
and other Raw Products
employed in the Chemical,
Pharmaceutical, Food,
Confectionery, Perfumery,
Veterinary and Allied
Manufacturing Trades.

Enquiries solicited for bulk supplies of:
BOTANICAL CRUDE DRUGS
(Balsams, Cinchona and other barks, leaves, roots, seeds, etc.)
CAMPHOR, MENTHOL & PAPAIN
GUMS Acacia, Karaya and Tragacanth (whole and powdered)
RESINS, SPICES & WAXES
Varied stocks available in original packages.
Correspondents and Agents throughout the World.

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Telegrams: FRISCHMANN LONDON

Telephones: (Day) ROYAL 2211/2 (Night) SPEEDWELL 6417

CODES: LIEBER'S A.B.G. 6th & 7th, BENTLEY'S COMPLETE & 2nd PHRASE,
WESTERN UNION 5 LETTER & PRIVATE

Bikini

Caters for all



**BIKINI
SUNTAN OIL**
9/6 per dozen.
Tax 60%
Retail 2/3.



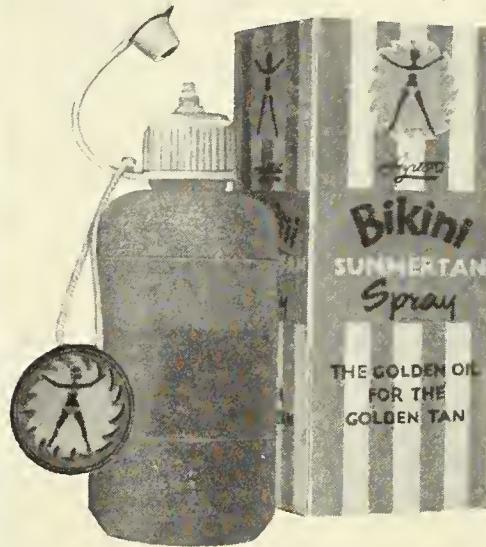
The addition of a fourth product to the famous BIKINI series of Suntan Preparations ensure that the tastes and requirements of all sun-worshippers can be catered for with Bikini.



**BIKINI
SUNTAN CREAM**

Delicately perfumed and tinted non-greasy Cream
9/6 per dozen. Tax 60%
Retail 2/3.

BONUS of thirteen-to-the-dozen on the two BIKINI SPRAYS until further notice.



***BIKINI SUMMERTAN SPRAY**

Polythene spray-bottle in fashionable blue-striped carton. 27/- per dozen. Tax 60%
Retail 5/-



***BIKINI NON-OILY SUMMERTAN SPRAY**

The latest addition to the Bikini Series Polythene spray-bottle in a distinctive red-striped carton. 27/- per dozen. Tax 60%. Retail 5/-

AYRTON, SAUNDERS & CO. LTD.
H A N O V E R S T R E E T , L I V E R P O O L

Telephone: ROyal 8282



The Perfect Pack for Display.
Available in sizes :—

1, 2, 2½, 3, 4, 5, 6, 8, 10, 12
and 16 oz.

Caps : Black, White or Red Plastic,
White Enamelled Metal.

"The Sign of a Good Bottle"

BEATSON, CLARK & CO. LTD
GLASS BOTTLE MANUFACTURERS
ROOTHERHAM Established 1751 YORKS

BC8B



36 Full Size Swabs for 1/-

• 100 for 2/6

Single Tipped, splinterproof,
hygienic. Uniquely packed.
Every stick visible and handy.

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PAPERSTICKS LIMITED

41-43 North Rd., Southend-on-Sea, Essex

For acidosis . . .
recommend

Rayner's Lembar

all the year
hot or cold

**Lemons, Glucose,
Scotch Barley & Sugar**
Controlled Resale Prices:
13oz 2s. 4d.
26oz 3s. 6d.

MADE BY RAYNER AND COMPANY LIMITED, LONDON, N.18



Create a sensation with your

French
OF LONDON

preparations

Create a sensation—by giving special counter prominence to your French of London hair preparations! Elegant, eye-stopping, they are unique in their red, black and white containers.

This is a short-cut to better profits for you. Every day women everywhere, of all ages, *need and buy* these famous preparations, so make sure you display them prominently.

The favourite French shampoos: BONNE SANTE, PLUS EGG and LEMON CREAM; BONNE SANTE LOTION for effective dandruff control; exciting FRENCH ACCENT; conditioning creams BONNE IDEE and FIRST CHOICE; last, but not least, SPRAY SET. And of course, there are discounts for larger orders and the usual settlement discount.

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Everybody's Choice!
Luxan AND Luxol
SANITARY TOWELS
need no recommendation...

—they are renowned throughout the land for their ease and comfort. Perfect hygiene at a modest price.



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 LONDON: 1 CROWN COURT, CHEAPSIDE, E.C.2. Phone: CITY 7328/4184

A new powerful synergistic combination

**TARCORTIN
CREAM**

For sub-acute and refractory skin affections

Treatment of sub-acute and refractory skin affections can now be considerably enhanced by combining tar, an established germicide, stimulus and anti-pruritic, with hydrocortisone as in TARCORTIN. Together, the medicaments have pronounced advantages over either one alone.

TARCORTIN CREAM is non-greasy, stainless and hydrophilic and is supplied in 7 grm. and 15 grm. tubes containing 0.5% Hydrocortisone in a special coal-tar extract.



STAFFORD-MILLER LIMITED

Manufacturing Chemists
 HATFIELD • HERTS • ENGLAND

sunglasses



TO HELP YOU Whitecross introduce the "Scala" box—a compact unit containing a selection (2s. 6d.—7s. 6d., retail) of 24 Italian ladies sunglasses together with a free display stand—simple, attractive and space-saving.

TO BOOST YOUR SALES the Whitecross Range for 1958 is being given **TELEVISION** advertising backing.

ASK your usual wholesaler for our illustrated brochure.

★ SEE our **RHODOGLASS** Lightweights—from France—an up-to-the-minute range with extra sales appeal—retailing from 3s. 11d.



REG. TRADE MARK

* **Whitecross Optical Company**

(Proprietors, Fredk. Lehmann Co. Ltd.)

Frederick Works, Rochester Place, London, N.W.1.

Telephone: GULiver 6731-2-3



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A wide range of B.P., B.P.C., etc., preparations including: LIQUID EXTRACTS • TINCTURES • OINTMENTS • LINIMENTS • INFUSIONS • DECOCTIONS • EMULSIONS • SYRUPS • GRANULATED AND POWDERED EXTRACTS • CONCENTRATED EXTRACTS FOR THE MANUFACTURE OF GALENICALS.

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Our Perfumery Laboratory manufactures a wide range of perfume bases for use in alcohol, creams, lotions, powders, etc., etc. In addition there are full ranges of Soap Compounds specially formulated for this industry. ROSE • JASMIN • MUGUET • LAVENDER • PINE, etc., etc. Isolates:—EUGENOL • GERANIOLS • RHODINOLS • EUCA-LYPTOL • CITRAL, etc., etc.

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Our English-distilled and imported oils have for generations been accepted as the standard of purity both at home and overseas. CLOVE • PEPPERMINT • LAVENDER • ALMOND • CHAMOMILE • DILL • ORRIS • PATCHOULI • NUTMEG • SANDALWOOD • CORIANDER • CASCARILLA, etc.

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We have been leading millers of natural gums for well over a century. Samples and advice on all questions of mucilage, emulsification and suspension will gladly be sent on request.

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Our specialities, as leading manufacturers of preparations for the control of insect pests, include:—PYRETHRUM EXTRACTS AND POWDERS • ROTENEX • DERRIS EXTRACTS AND PREPARATIONS • PYRETHRUM & D.D.T. COMPOUNDS



STAFFORD ALLEN & SONS LIMITED, WHARF ROAD, LONDON, N.1

Telephone: CLErkenwell 1000

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Cables: STAFALENS, LONDON

THREE NEW PROFITABLE LINES FOR CHEMISTS

by

GOMAX LTD.



I Doz. $1\frac{1}{2}$ Tubes
costs 14/5

SHOWS 9/7
PROFIT (Exc. P.T.)
PER DOZ.

★ GOMAXINE ANTISEPTIC CREAM

A Non-Greasy Powerful Antiseptic Application for all kinds of Open Wounds, Cuts, Insect Bites.

and

★ GOMAXIDE LIQUID GERMICIDE

A New Household Antiseptic (R.W.Coeff. 6.3)

I Doz. 4 oz.
costs 8/9—
shows 5/9 Profit (Exc. P.T.)

I Doz. 8 oz. costs 16/6—
shows 11/- Profit
(Exc. P.T.)

COMPLETE
DOZENS
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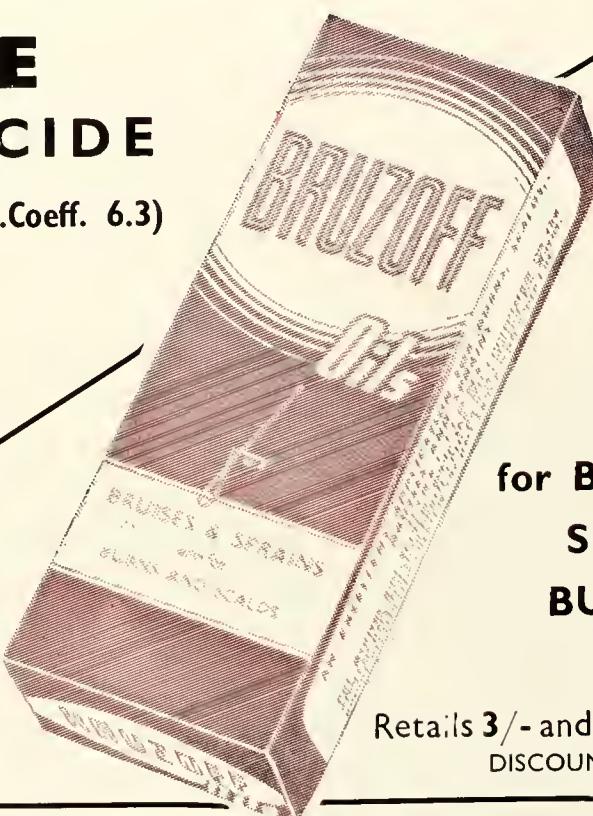
Packed in
Smart 2 oz.
and 4 oz. Packs

An

Amazing
Remedy

for BRUISES,
SPRAINS,
BURNS or
SCALDS

Retails 3/- and 5/6 (Exc.P.T.)
DISCOUNT 33½%.

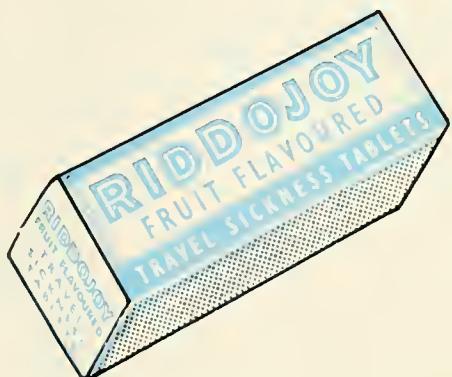


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RIDDLELL PRODUCTS

A New Exciting Fruit Flavoured & Sweetened TRAVEL SICKNESS TABLET

Cartoned in
Plastic Tubes
of Ten.
33½% DISCOUNT



SHOWING GOOD
PROFIT.
FREE SHOWCARD

Retails at 1/6

Free Samples available

**RIDDELL PRODUCTS
ARE GOOD
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For
**PILES, COLIC,
GASTRITIS,
ABDOMINAL PAIN**

*Recommend for
Quick Relief . . .*



Details and Samples Free

BELLAPURIN
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MANCHESTER BRANCH: 11 Mansfield Chambers, St. Ann's Square

LTD.



← There are
BIG PROFITS inside!

Have you seen this NEW WALLIS ORDER FORM?

You really must see it! It may please you or puzzle you, but if nothing else it will make you look, as the packs of Wallis tablets will make the public look.

Write now for a copy of this smart new prepaid order form and you will see that profits await you in the top quality keenly priced, smartly packed tablets and capsules produced in the up-to-date factory of

THE WALLIS LABORATORY LTD.

- We can supply own-name packs
- We can supply all tablets, pills, capsules on the N.F. list
- We specialize in unit packaging of tablets

THE WALLIS LABORATORY LTD

58 KING GEORGE'S AVENUE, WATFORD, HERTS

Telephone: WATFORD 2812





These are included in the range of over 400 pharmaceutical chemicals produced by
May & Baker Ltd. May we quote you?

CODEINE PHOSPHATE B.P. SPECIAL TABLETTING GRADE,
Codeine Alkaloid B.P., Codeine Hydrochloride B.P., codeine phosphate, codeine sulphate.

Diamorphine Hydrochloride B.P.C., Ethylmorphine Hydrochloride B.P.C.

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CLINICALS

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Telephone: LIBERTY 2283-4-5-6 & 4201

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ILLMOND
ASSORBENT
Cotton Wool

THE CHEMIST AND DRUGGIST

JUNE 28, 1958

ILLMOND
ASSORBENT

Cotton Wool

ILLMOND

COTTON WOOL
ASSORBENT
SPEC. QUALITY

Cotton Wool Dispenser Pack

- ★ Only as much as you need is pulled out at a time.
- ★ Package has tuck-in ends and can be re-sealed.
- ★ Cotton Wool kept clean throughout.
- ★ Elegant design of pack appropriate for lady's dressing table.

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E. ILLINGWORTH
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TELEPHONE: BRADFORD 76261/9

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Cotton Wool

SPEC. QUALITY

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ELASTIC BAND TRUSSES

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THE FINEST ELASTIC SURGICAL APPLIANCES

SURGICAL BELTS
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SUSPENSORY BANDAGES

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- SEAMED - FINE OR STOUT
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- TWO-WAY STRETCH LASTEX TYPE
- ELASTIC NET "EESINET" IN COTTON OR NYLON
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MADE WITH NYLON YARN

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of all Descriptions

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GRAMS "EESINESS"

Cash in on this fashion trend



for
coloring
hair
up to
50%
Grey

SEMI-PERMANENTLY

Sensational new Progressive **hair magic**

BROWN Shades

BY INECTO

Wonderful news for the millions of women beginning to go grey.

With BROWN, ASHEN BROWN and CHESTNUT BROWN 'Progressive' series of Hair Magic they can now so easily conceal their grey hair, blending it with their natural brown colour. Harmless and foolproof, no skin test required.

Also available—Smoky Gray to give an even dark grey tone to grey hair, and Damson for a lovely deep auburn effect on black, dark or medium hair.

From your usual wholesaler.

Stock up now to meet the demand.

2'8 (INC. P.T.) RETAIL **4'-**

Advice Bureau:
INECTO HOUSE, 27 DOVER STREET, LONDON, W.1.
HYDe Park 7541 (12 lines)



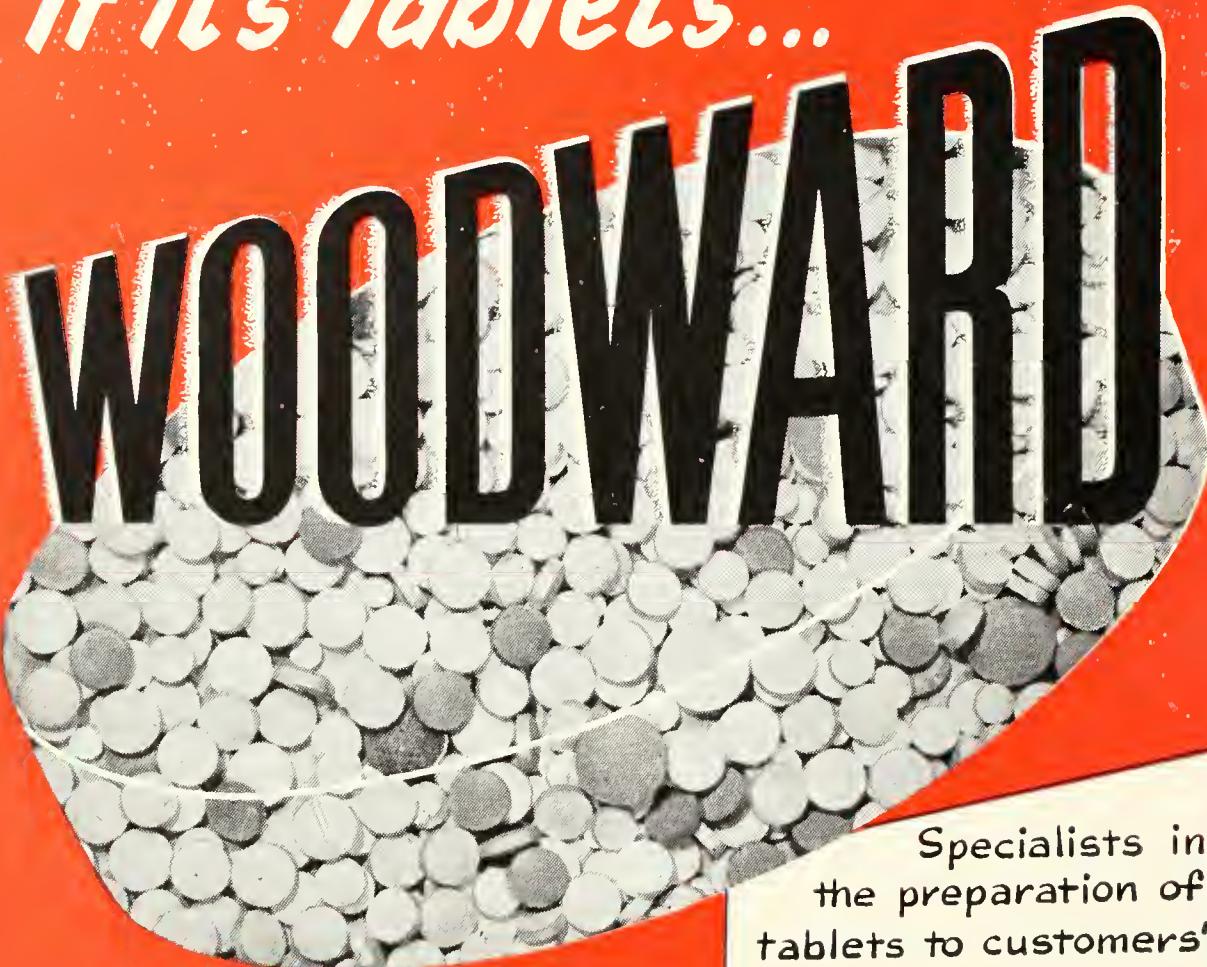
REGD. TRADE MARK

A Green Cross
is the
Registered Trade Mark
of
Newton Chambers and
Company Limited

The British Standards Institution has recently recommended that the location of first aid boxes should be marked by a Green Cross. Newton Chambers & Co. Ltd. are advised that to do this would constitute an infringement of their Registered Trade Mark No. 616,341 dated 26th September 1941, and they would be compelled to take steps to protect their rights. Newton Chambers raise no objection to the use of a cross in some other colour, or the use of some other device, e.g. the initials 'F.A.', in green or any other colour.

NEWTON CHAMBERS & CO. LTD., THORNCLIFFE, SHEFFIELD.

If it's Tablets...



Specialists in
the preparation of
tablets to customers'
own Formulae.

COMPRESSED

**MEDICINAL
TABLETS**

- QUALITY AND ACCURACY GUARANTEED
- MODERN PLANT • PROMPT DELIVERY

HOME and EXPORT ENQUIRIES INVITED

G. O. WOODWARD & CO., LTD.

MANUFACTURING CHEMISTS

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**for
speedy
and
efficient
service —**

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ORDERS CAN BE MET
NORMALLY FROM
STOCK FOR

*Ethicals. Pharmaceuticals
Proprietaries. Galenicals.*

A branch to serve your district;
the most comprehensive stocks
in the country; a speedy
delivery service to all parts;
make Sangers service the service
for you.

WRITE or PHONE: LONDON · 258 EUSTON ROAD · N.W.1 · Telephone EUSton 5010
NEWCASTLE · 46-50 ELSWICK ROAD · Telephone Newcastle 34221
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Deep roots...

In the highly specialised sphere of drug growing, Ransom's roots go deep. Founded more than a century ago, the Company can claim a vast fund of experience that has long been acknowledged around the world. And Ransoms is a truly *progressive* organisation . . . always seeking still better methods of cultivation . . . always developing still newer strains of medicinal plants on the Company's drug-growing farms at St. Ives. Ransoms look energetically to a future in which drugs and galenicals will continue to fill a vital role, for nature often provides the best measures against diseases, despite today's use of synthetic drugs.

EXTRACTS • TINCTURES • ESSENTIAL OILS • RESINS • CHLOROPHYLL

Actual growers of

BELLADONNA • HENBANE • FOXGLOVE • PEPPERMINT • LAVENDER

Samples and quotations gladly supplied

SPECIALISTS IN THE MANUFACTURE OF PRODUCTS TO CUSTOMERS' OWN FORMULAS

WILLIAM RANSOM & SON LIMITED

Hitchin • Hertfordshire • England



Established 1846



Tuboplast containers made from 'Alkathene' I.C.I. polythene by Cascelloid Limited, Leicester.

It looks better, sells faster in a Container made from 'Alkathene'

THESE NATIONALLY known products are attractively presented. They're hygienically and safely presented, too. They're packed in 'Alkathene.'

See how the names and trade marks stand out! That's because 'Alkathene' takes printing so well, in colour or in black and white. Furthermore, the 'Alkathene' itself is available in a wide range of gay, eye-catching colours.

'Alkathene' combines flexibility with strength. It has a good feel. It is inexpensive. It is, in fact, the ideal material for packing a wide range of products such as these*,

whether they be in liquid, cream or powder form. No wonder Cascelloid Ltd. chose 'Alkathene' the I.C.I. brand of polythene to make these Tuboplast containers for their clients.

*If you want to know whether you can pack your Product in 'Alkathene' telephone:—

London—Grosvenor 4010 **Manchester**—Deansgate 2466

Glasgow—City 5020 **Birmingham**—Central 7070

Belfast—Belfast 27741 **Cardiff**—Cardiff 22731

Bristol—Bristol 38981

'ALKATHENE'

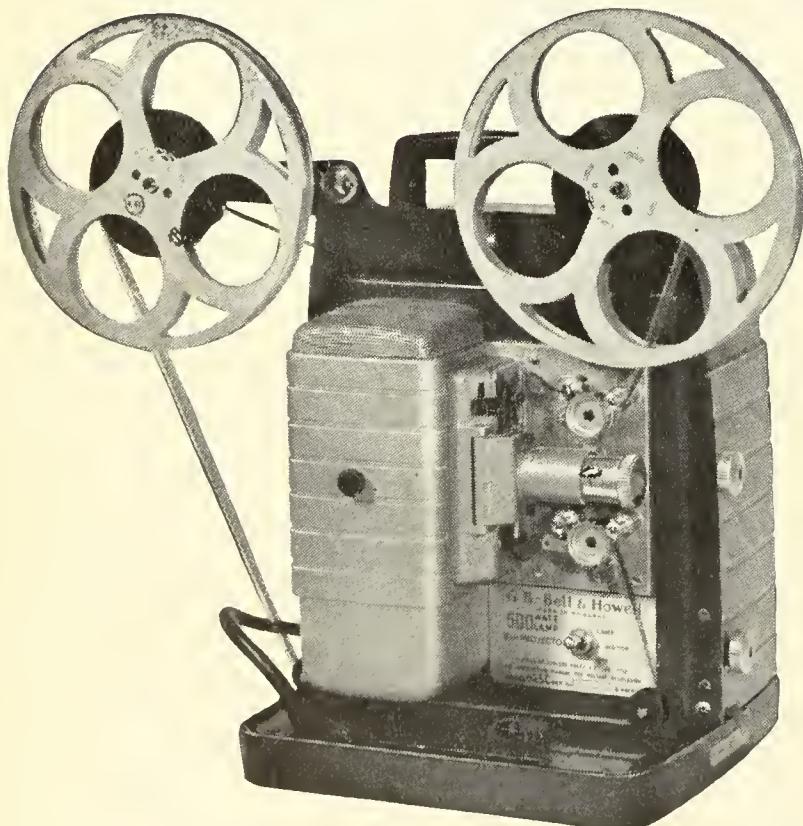
'Alkathene' is the registered trade mark for the polythene made by I.C.I.

IMPERIAL CHEMICAL INDUSTRIES LIMITED · LONDON · S.W.1
A.I.



THESE TWO

are making home movies more popular than ever before



and the '625' 500 watt projector



The G.B.-BELL & HOWELL '624' 8mm. cine camera

-and that means
BIGGER SALES
THAN EVER BEFORE

Anyone can make first-class colour movies and project them at their brilliant best easily, with the G.B.-Bell & Howell '624' cine camera and 500 watt '625' projector. Anyone can afford their surprisingly low prices. Constructed with ingenious simplicity, beautifully designed and finished, these precision-built machines offer your customers the finest complete cine outfit and the easiest means for making and showing home movies that there is.



RANK PRECISION INDUSTRIES LTD

SIMPLEST TO USE EASIEST TO SELL

And this year big scale advertising campaigns are making their great advantages, their exclusive features even more famous. More people than ever before will ask to see—and want to buy this G.B.-Bell & Howell pair.

G.B.-Bell & Howell

624' 8mm. cine camera with f/1.9 lens now only **£25.10.10.** (inc. p.t.)

625' 500 watt, variable speed companion projector to '624'
£35.0.0.

millions of people will read about them—



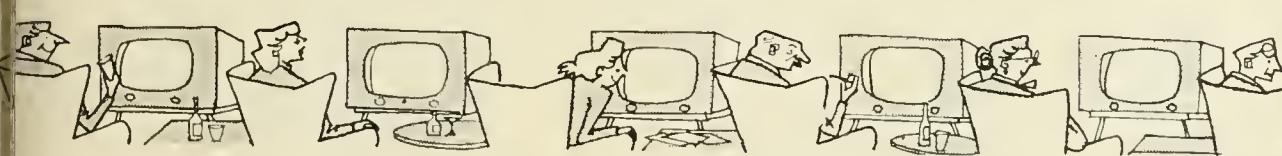
Heavy
PROVINCIAL
and photo
PRESS advertising

millions will see them on their local screens—



concentrated
CINEMA
advertising in
many areas

millions more will see them on their T.V. screens—



powerful T.V.
advertising
leading up to
the holiday season

Please send me further details of the '624' cine camera and '625' projector.

NAME _____

ADDRESS _____

Rank Precision Industries Ltd., Cine & Photographic Division, 37/41, Mortimer St., London, W.1. MUSEum 5432

Special Thawpit Summer Offer

DURING THE WHOLE OF JULY

**5% extra profit
FOR YOU!**

This is a wonderful offer for our new display carton of one dozen THAWPIT CLEANING PADS, 2/- size. For all orders received up to July 31st 1958, an extra special discount of 5% will be allowed showing you over 40% on cost.



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YOUR BEST CUSTOMERS READ THE DAILY MAIL



The CHEMIST AND DRUGGIST

Volume 169

ANNUAL SPECIAL ISSUE, 1958

No. 4088

LITERARY CONTENTS



ESTABLISHED 1859
The weekly newspaper for
pharmacy and all sections of
the drug, pharmaceutical and
fine chemical, cosmetic, and
allied industries.

Official organ of the Pharmaceutical Society of Ireland and the Pharmaceutical Society of Northern Ireland.

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683 EVER-OPEN DOOR
A Montreal pharmacy that has no door to close.

684 HOLIDAY IN INDIA LAURENCE DOPSON
It seemed a crazy idea to go so far afield but Miss J. Rumble, having been once successful, proposes to make a habit of it.

686 STERILE AT THE MOMENT OF USE
With so many uses, users, and places of use in hospital today, the hypodermic syringe demands a centralised service of sterilisation if risks are to be avoided. One of the most successfully organised of such services is at Chase Farm Hospital, Enfield.

688 VITAMIN C FROM THE HEDGEROWS
During the 1939-45 war a happy co-ordination between amateur collectors and manufacturers produced from the not very amenable rose hip a vitamin-rich preparation that finds more and more peace-time users.

689 PERSONAL HEATERS OF THE PAST
A problem that the electric blanket seems today to have solved for many people has had many other answers (or efforts at an answer) in past days.

692 AN ANONYMOUS APOTHECARY C. G. DRUMMOND
The manuscript records of a Dalkeith, Midlothian, surgeon-apothecary, throw light on the drugs and methods in a rural practice in the early 18th century.

693 TABLET IDENTIFICATION 1958
Pharmacists, physicians and the police are often called upon to say what drug a person has been taking. Often that is impossible but with some tablets and capsules makers' marks and colours can help. Charts newly published in these pages supplement the series—long ago sold out—first issued in 1956.

704 BELL-METAL MORTARS AGNES LOTHIAN
Interest in metal mortars is widespread and of long standing but never before have they been discussed so informatively, so fully and so entertainingly.

712 DESIGN FOR A COLLEGE OF PHARMACY NOEL F. BOWMAN
Not many architectural students, probably, have gained a degree with a thesis on a college of pharmacy, but Mr. Bowman (son of a pharmacist) has done just that.

713 4,000 YEARS OF INFANT FEEDING N. W. HUTCHINGS
Not only in modern conditions but all through the ages vessels have had to be designed in imitation of or substitution for the mother's breast, but until modern times the vessels used contributed to high infant mortality rates.

719 PLAGUE F. M. W. HARRISON
No fears are felt that there will ever be another Great Plague in England, but in some Eastern countries bubonic plague has been a terror within the recent personal experience of many, including the writer.

721 EUROPE AS A MARKET FOR PHARMACEUTICALS
With six European countries soon to reduce import tariffs among themselves, and the wider Free Trade Area unlikely to come into operation this year, British exporters face a challenge. For pharmaceutical manufacturers the first step in meeting it is to get to know the nature and potentialities of the demand in each of the countries within the Area.

729 "BOTANY RAMBLES" ON A GRAND SCALE
After the 1939-45 war Jugo-Slavia, like other countries involved in hostilities, had to set to work to rebuild a disrupted economy. One natural resource—medicinal plants—has been systematically developed with the help of pharmacy students and pharmacists.

PUBLISHED BY MORGAN BROTHERS (PUBLISHERS), LTD., at 28 Essex Street, Strand, London, W.C.2

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ANNUAL SUBSCRIPTION, which includes The Chemist and Druggist Diary and Year Book, £2 10s. Single copy one shilling.

What's in a name?

CORTISONE,

*an adrenocorticosteroid, hence **Adreson***

and what should follow more naturally than

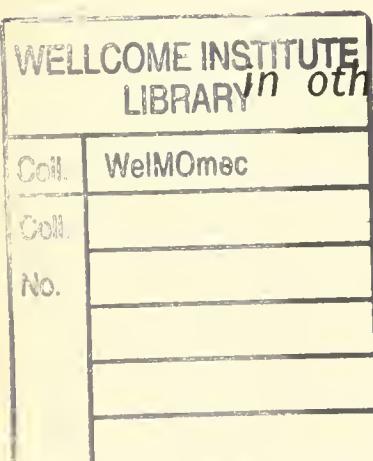
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The CHEMIST AND DRUGGIST

Volume 169

JUNE 28, 1958

No. 4088

Common Market Policy NO AGREEMENT YET ON WIDER SCHEME

THE six Common Market countries which met in Paris, June 17-18, have so far failed to reach agreement on their joint policy towards the Free Trade Area.

Their experts were to have submitted a final memorandum to ministers early in July before examination by the full seventeen-nation Maudling Committee which is negotiating the Free Trade Area. The experts examined—but failed to approve—a resolution calling for an extension of the Common Market's 10 per cent. tariff cuts (scheduled for January 1, 1959), to all members of O.E.C. or even to all members of G.A.T.T. on a basis of reciprocity. Such a move would give the F.T.A. negotiators an eighteenth-month reprieve in which to reach agreement. It is understood that the reason the resolution was not approved was that certain delegations, including Italy and Benelux, did not want the "good will gesture" of the tariff cut extension to be one-sided. During the fortnight before the Common Market ministers are due to meet, efforts will continue to reach a compromise. A forthcoming visit to Bonn of Mr. Reginald Maudling is expected to have some bearing on what interim agreement will be reached.

New Drug Tariff

LARGER MULTIPLE-PACK DRESSING

A NEW Drug Tariff (dated April) now being issued by Executive Councils includes the new simplified scale of fees (see C. & D., March 29, p. 337). The fees for trusses and elastic hosiery have been amended, and are now in line with fees for the other items including the one penny added in 1950 (though omitted in the original notice). No basic

prices are included in Part III (Drugs and Preparations) for those B.N.F. preparations which are available only as proprietary products (payment being based accordingly). Other changes include the addition of multiple-pack dressing No. 2, containing in a carton 4 oz. of cotton wool; three 1-yd. gauze and three w.o.w. bandages. The specification for nylon elastic-yarn lightweight hosiery has been amended, and compound aminacrine tulle has been deleted as demand has been negligible.

Uses of Nystatin

A REFERENCE REVISED

IN an article in these columns on the centennial year of E. R. Squibb & Sons (C. & D., June 14, p. 635), reference was made to nystatin as a remedy for vaginal trichomoniasis. It should correctly have been pointed out that nystatin is an antifungal antibiotic of particular value in moniliasis, including monilial vaginitis, oral thrush and moniliasis of the alimentary tract and skin, and is also given in conjunction with tetracycline (in the form of Mysteclin-V) to prevent the overgrowth of fungi in the intestines. Its therapeutic effects in vaginal trichomoniasis have not been adequately demonstrated.

Advertisements on Shops

DISCUSSIONS WITH THE MINISTER

MR. Henry Brooke (Minister of Housing and Local Government) is meeting representatives of trade, municipal and

other organisations on July 3 to discuss his plans for removing "the clutter of advertisements from outside shops and other commercial premises." It is expected that the Minister will outline his revised proposals for exercising stricter control over that type of advertisement, although it is thought that the proposed control of "buy this" and "buy that" signs will not be as strict as originally anticipated—as a result of many protests against the earlier proposals.

IRISH NEWS

Advertisement Controls

SCOPE OF NEW REGULATIONS

THE full text of the Medical Preparations (Advertisement and Sale) Regulations, 1958 (C. & D., June 21, p. 652), is now available. They prohibit any person from advertising "any medical preparation in a manner which might lead to the use of such preparation in the diagnosis, prevention or treatment in human beings of a scheduled ailment, infirmity, injury or defect." A person is deemed not to have contravened the regulations "where the advertisement was published in such circumstances that he did not know and could not by the exercise of reasonable care have known that he was taking part in the publication thereof." The conditions for which advertisements are prohibited are: Albuminuria; appendicitis, arteriosclerosis; blood pressure; bone disease; Bright's disease; cancer; carbuncles; cholecystitis; diabetes; diphtheria; dropsy; epilepsy; erysipelas; gallstones; gastric or peptic ulcers; heart and vascular diseases; lupus; mastoiditis; measles; meningitis; mumps; nephritis; otitis media; paralysis; paratyphoid; pneumonia; poliomyelitis; prostate gland disorders; pyelitis; rodent ulcer; scarlet fever; sinus infection; smallpox; tuberculosis; tumours; typhoid; uræmia; whooping cough.



CENTRAL AFRICAN WAREHOUSE AND OFFICES: Allen & Hanburys, Ltd., London, E.2, have opened at Southerton, Salisbury, Rhodesia, the new warehouse and office building shown. So recently as 1954 the development of the company's affairs in the Rhodesias was confined to periodic visits by pharmaceutical and surgical representatives, with lines of communication extending back to London and Durban. Early in 1956 a branch of the company's surgical division was established in Salisbury, with stocks of surgical instruments and hospital equipment. The newly opened factory is planned to accommodate plant and equipment for pharmaceutical manufacturing.

INTERIM REPORT ON PRESCRIBING COSTS

Full pricing as one method of effecting economies

THE Committee on the Cost of Prescribing, in an interim report published on June 23, has found "no evidence of serious irresponsibility on the part of doctors in prescribing." The Committee recommends providing doctors with a "comprehensive prescribing handbook" to include information about comparative costs of standard drugs and proprietary preparations, and approves full pricing as a means of preparing accurate statistics for speedy circulation to prescribers. Terms of reference were: "Having regard to the increase in the cost of prescriptions issued under the National Health Service, to investigate the factors contributing to this cost and to make recommendations." The Committee has held eleven meetings and received oral and written evidence. Though still engaged in reviewing evidence, it considers that it has sufficient information on several matters to justify a few comments and recommendations. At this stage it has not thought it appropriate to consider substantial modifications of the system.

Not Enough Information

The Committee notes that the increase in total cost of drugs to the National Health Service has been proportionately less than in other countries of Europe and the Commonwealth which have similar (but "usually more restricted") systems of insurance.

Economy in the National Health Service depends largely on the doctors, but it is not fair to criticise them because the bill the State has to meet is a large one. People may have become more "doctor-minded," and more demanding on doctors' services, partly because the National Insurance regulations require a doctor's certificate from anyone claiming sickness benefit. Employers also often ask for doctors' certificates if their workers are absent. In consequence a large proportion of the public is obliged to see doctors for those reasons "and it is not surprising that they should take the opportunity to ask for prescriptions for simple remedies which previously they would have bought for themselves."

Doctors find it difficult to devote time to the examination of relative costs of alternative prescriptions. "So it is not to be wondered at if . . . the doctor sometimes takes a short cut and, instead of hunting up notebooks and formularies to pick out a standard preparation or an equivalent that can be provided cheaply, prescribes some proprietary which has been impressed on him by advertisement, and which is no better or worse for the patient but may, unfortunately, be more expensive to the National Health Service."

The Committee considers that the British National Formulary should be in the hands of all doctors, whether in hospital or general practice, and that clinical students should be supplied with it. The habit of using the B.N.F. is unlikely to form unless doctors make its acquaintance during their training. Concern is expressed that in some medical schools no instruction is given to stu-

dents in its use. "We are particularly impressed by the contents and layout of the 'alternative' edition." In a reference to the editors' belief that it is unwise to record the prices of preparations in the Formulary, the report argues that, if a doctor is to prescribe efficiently and with a proper regard for economy, he must be provided with information about the comparative costs of standard drugs and proprietary preparations having similar therapeutic uses.

A Comprehensive Handbook

The report pays tribute to the Ministry of Health for its part in circulating "Prescribers' Notes," but takes the view that if doctors are to select the cheaper preparation when alternatives are available, information about relative costs should be provided in a single comprehensive prescribing handbook "of convenient size and adequately indexed." That handbook should contain not only much of the present British National Formulary (alternative edition) but also the comparative costs of standard and proprietary preparations and other information now only to be found in a number of separate publications. To keep information on prices up to date, revision would be necessary at regular intervals, and a loose-leaf type of publication, is suggested, a system that would also enable preparations and new drugs of obvious merit to be added without delay. "The Joint Committee might regard inclusion of prices with less concern if these were to be included in a section obviously disconnected from the Formulary proper and if its production were to be the responsibility of . . . some other body. We recommend, therefore, that the Minister should confer with the British Medical Association and the Pharmaceutical Society to see if it is practicable to include, within the one publication, sections which are prepared by and are the responsibilities of, separate bodies."

Prices on Advertising Literature

After referring to "the public-spirited action of the Association of British Pharmaceutical Industry in recommending its members to keep the medical profession informed of the prices of their products," the report alleges evidence that certain firms do not observe that recommendation. In the circumstances the Committee supports a suggestion that, if necessary, the law should be amended to make it obligatory for manufacturers to indicate in literature circulated to doctors in the National Health Service the prices of the advertised products. The price quoted should be the "retail" one and should be related to the therapeutic quantity likely to be required. The practice of some Executive Councils in supplying drug houses and advertising agencies with copies of their medical and pharmaceutical lists should be discontinued.

The circulation to doctors of their individual prescribing statistics is thought to have been one way of help-

ing to reduce the cost of prescribing. The main criticisms are that the information is not supplied often enough and should be more up to date.

Full Pricing Urged—If . . .

"One of the incidental advantages claimed in evidence by the Joint Pricing Committee in support of their demands for full pricing of prescriptions, was that full pricing would facilitate the preparation of more accurate statistics." That Committee "could undertake full pricing without more staff and at no greater expense than under the present averaging system." If it were possible to improve the effectiveness of the data circulated to doctors about their prescribing costs, by presenting combined statistics of each doctor's prescriptions from all Executive Council areas, the Committee would urge the institution of full pricing immediately. An immediate investigation by experts in operation and statistical arrangement is recommended.

Regional medical officers of health should play more of an advisory part. Their visits to doctors should not necessarily be associated with a possible summons to appear before a Local Medical Committee.

The department should consider whether the present level of remuneration for regional medical officers of health is commensurate with their responsibility. An admission is made that statistical information on the cost of the general pharmaceutical services is inadequate.

Simple Approved Names

The Committee believes that economies would follow if simple approved names for new products could be quickly evolved and given wide publicity. At present a year or two may elapse before an approved name is formulated for a new drug, during which period doctors "get into the habit of prescribing the new preparations by their trade names." The report recommends the Minister of Health to ask the British Pharmacopoeia Commission whether it will review the principles on which the selection of approved names is based. "We consider also that, before putting a new drug on the market, manufacturers should be encouraged to ask the British Pharmacopoeia Commission to give it an approved name. As soon as that has been done, the approved name should appear on labels and advertising literature for proprietary preparations as prominently as the trade one. We recommend the Minister to consult the Association of British Pharmaceutical Industry with the object of persuading drug manufacturers to adopt this practice."

A "significant increase" in quantities of drugs ordered was noted, particularly after the introduction of the shilling charge per prescription. Experience has shown, says the report, that, while leading to a substantial reduction in prescriptions issued, the charge has caused an equally substantial increase in the amounts prescribed.

NEWS IN BRIEF

AN Order published as S.I., 1958, No. 974, provides for the payment of drawback of Customs duty on maize starch or milo starch used in the manufacture of certain exported liquid glucose from June 20.

OFFICERS of the Guild of Public Pharmacists elected June 21, for 1958-59, are: President, Mr. J. W. B. Fish; Vice-president, Mr. S. Powson; Treasurer, Mr. E. J. Fitchett; Registrar, Miss E. M. Hirst; Secretary, Mr. S. Powson, 105A Albemarle Road, Beckenham, Kent.

CONTRIBUTORS to a £1½ million trust fund to establish the new Churchill College, Cambridge, include the Wellcome Foundation, Ltd. (£1,000); Gillette Industries, Ltd. (£12,000); Imperial Chemical Industries, Ltd. (10,714); and Unilever, Ltd. (£7,143).

THE period during which representation may be made to the Board of Trade about the intended continuance of current exemptions from Key Industry Duty (see *C. & D.*, May 31, p. 573) has been extended by two weeks to July 4.

COST of health services administered by the London Executive Council in 1957-58 was a record at £13,802,635—an increase of £674,936 over the cost for 1956-57. The pharmaceutical service was the only one which cost less than in the previous year: £4,034,346 compared with £4,189,724.

FROM July 7 the weekly National Health Service contribution is increased by sixpence for men, fourpence for women and twopence for juveniles with, for employed persons, an additional twopence from the employer. National insurance stamps at the new rates are on sale at Post Offices from June 30.

SPORT

GOLF.—HULL CHEMISTS' ASSOCIATION, at Hornsea golf club, on June 19. *Lofthouse cup*. R. Spink: President's prize, E. B. Walker. Lofthouse & Saltmer, Ltd., were represented by Mr. T. L. Harrison (managing director) and Mr. W. E. Naylor (works manager).

MANCHESTER PHARMACEUTICAL GOLFING SOCIETY, Fixby hall, Huddersfield, on June 18. Four-ball Stableford competition for prizes provided by Robinson & Sons, Ltd., Chesterfield. *Winners*, J. Cropper and Dr. E. Frazer, 43.

SOUTH LONDON AND SURREY PHARMACISTS' GOLFING SOCIETY, at Walton Heath, on June 18. Forty-eight members competed in a Stableford competition. *Results*, 1, F. Jamieson, Shirley Park, 36; 2, R. Healey, Langley Park, 33; 3, M. Lewis, Shirley Park, 33.

BOWLS.—ULSTER CHEMISTS' ASSOCIATION BOWLERS, friendly match against Belmont Bowling Club, at Belmont, Belfast, on June 18. Belmont won by 88 to 56. *Results*: U.C.A. Bowlers, W. Beattie, 17; J. Caldwell, 13; G. Hamilton, 6; S. Magowan, 20; Belmont Bowling Club, A. Lennox, 20; G. Graham, 24; R. McConnell, 23; J. Halliday, 21.

LOCAL OFFICERS

PHARMACEUTICAL SOCIETY

Eastbourne Branch.—Chairman, A. Howarth; Vice-chairman, D. Corden; Treasurer, Miss E. M. Temple; Secretary, M. T. H. Clark, 10 Kings Drive, Eastbourne.

Wolverhampton.—Chairman, T. S. Compton; Vice-chairman, H. H. Jones; Treasurer, A. A. Whick; Secretary, J. S. Makin, 20 Long Mill Avenue, Wednesfield.

TOPICAL REFLECTIONS

By Xrayser

Holidays at Home

When first my eye lighted on an advertisement for what were described as armchair tours, I laboured under a misapprehension. It transpired that attention was being directed towards a coach-tour where the accommodation provided was, from the point of view of comfort, equal to an armchair in the home. My initial reaction to the heading was that the advertiser was soliciting a subscription to a book club devoted exclusively to books of travel. It seemed a good idea. One could sit with slippered feet in the comfort of one's home and visit equatorial Africa without the hazards of malaria or fever. Or one could be transported to Siberia ("transported" has been the word associated with that region from time immemorial) without fear of frostbite. Or one could venture down an alley in Ankara with no thought of stealthy footsteps or seductive spies. All of these—and no passports, no visas, no currency problems, no language difficulties, no upsetting of the complicated and delicate machinery of the digestive organs. It all seemed to be ideal, but therein lies the danger of the quick glance from which one tends to draw erroneous conclusions. A closer perusal of the material disclosed that some effort is demanded of the participant after all, together with an enforced and possibly quite unjustified absence from business.

Midsummer Night's Dream

But tonight, after all, I have made my pilgrimage. Tonight—a night forever remembered for Oberon and Titania; for Puck; for Peasblossom, Cobweb, Moth and Mustardseed; for Snub the Joiner, for Bottom the Weaver and Quince the Carpenter—tonight I have drawn my own armchair up to the fire in this cold and sun-starved June, and have made a world tour with, as my guide, two columns of THE CHEMIST AND DRUGGIST, headed respectively "Crude Drugs" and "Essential and Expressed Oils." And through them I have learned again that

I know a bank whereon the wild thyme blows,
Where ox-lips and the nodding violet grows;
Quite over-canopied with lush woodbine,
With sweet musk-roses, and with eglantine.

Tonight, in the market reports, without need for counting the cost, I have roamed, and found contentment, refreshment and stimulation. Here is ipecacuanha, from which I learn that Colombian and Matto Grosso are to be had for the asking, but that the trip to Nicaragua or Costa Rica would be without reward. Chillies are obtainable from Mombasa and Zanzibar, and I see them there at the docks, being shipped into large modern steamers, while the dhows of the Arab traders—unchanged through the centuries—are heeling in the breeze outside the harbour. And the scent of cloves comes down the wind.

Landfall

I take my comfortable way, but at fairy-like speed, to Formosa for menthol, a little apprehensive that that most temperamental of prima donnas in the world of pharmacy will have been upset by a typhoon, a tidal wave or an earthquake. So I change my mind and decide on the Brazilian variety, only to find a revolution in progress in one of the neighbouring states. There is, too, romance and poetry in my reading. What better could one ask than oils of bois de rose, also from Brazil; or citronella from Ceylon; or Anatolian otto of rose; or oil of orange from Florida; or Bourbon or Algerian oil of geranium? Unless it be Spanish sweet fennel, or Kenya cedarwood, or petitgrain from Paraguay. Then there is cinnamon from the Seychelles—isles of spices, where enchantment appears to lie, though they were favoured for banishment of different British subjects at one time. Perhaps it were better to avoid the Seychelles. Penang patchouli seems redolent of Paris (or conversely, perhaps, Paris of Penang patchouli?) and a landfall is made with Mitcham lavender. I can recommend the trip. The difficult problem of locum tenens does not arise. Why did I never venture into those pages before?

COMPANY NEWS

Last year's figures in parentheses

CROOKES LABORATORIES, LTD.—Dividend is being maintained at 25 per cent. for the year ended March 31. It is proposed to make a one-for-one scrip issue. The 1957-58 net profit of £33,275 compares with £38,049, after tax of £35,632 (£51,642).

SANITAS TRUST, LTD.—A final of 17½ per cent. making 20 per cent. for the year ended March 31 on capital increased by scrip issue is to be paid. Subject to audit, group profit was £197,809 (£275,946) after tax of £238,050 (£230,882). Group profit of Sanitas Co. is £143,277 (£192,842) after tax of £136,314 (£124,611).

MONSANTO CHEMICALS, LTD.—The chairman (Sir Miles Thomas) in a letter to stockholders states that Monsanto Chemicals (Australia), Ltd., had now purchased two subsidiaries of Drug Houses of Australia, Ltd. (see *C. & D.*, March 1, p. 225). The purchases and the provision of necessary working capital are being financed by the Australian subsidiary and it has been arranged that the whole of the new Ordinary shares should be subscribed by the parent company (Monsanto Chemical Company, U.S.A.) at 40s. (Australian) per share. Prior to the transaction Monsanto Chemicals, Ltd., owned 79·7 per cent. of the issued Ordinary share capital in the Australian subsidiary. It will now own 58·8 per cent.

BRITAIN IN EUROPE, LTD.—A new organisation has been formed to promote interest in Britain's participation in the proposed European Free Trade Area. Known as the Britain in Europe Committee (Britain in Europe, Ltd.) it includes leading figures from all sides of industry, finance and commerce. The chairman is Sir David Kelly and the secretary is Mr. E. G. Thompson (technical sales manager, Baird & Tatlock, Ltd.). The committee, which comprises more than fifty members, includes: Mr. F. A. Cockfield (finance director, Boots Pure Drug Co., Ltd.); Sir Harry Jephcott (chairman, Glaxo Laboratories, Ltd.), and Mr. W. E. K. Piercy (chairman, Albright & Wilson, Ltd.). The offices of the committee are at 61 Catherine Place, Palace Street, London, S.W.1 (telephone: Victoria 4165).

BOOTS PURE DRUG CO., LTD.—In his annual statement to shareholders Mr. J. P. Savage (chairman) welcomes the changes proposed by the Chancellor in the structure of the profits tax "as they remove an unnecessary and possibly a damaging curb on the discretion of boards of directors in deciding what dividends to pay and what sums to place to reserve." Nevertheless taxation on the profits of industry remains at an excessive level, he says. On profits of just over £5 millions the company are having to provide £3 millions in taxation or nearly 60 per cent. One reason is that . . . the allowance which may be claimed for taxation purposes is limited to industrial buildings despite the recommendation of both the Tucker Committee and the Royal Commission on the Taxation of Profits

and Income that the allowances should be extended to commercial buildings as well. Within forty-eight hours of the Budget purchase tax announcement the company's retail prices reflected the full concessions in purchase tax made by the Chancellor. . . . The company paid to the Government in purchase tax a sum exceeding £350,000 which can never be recovered. . . . "We are all in favour of continued reductions in purchase tax, but it seems quite wrong to expect the retailer to finance these operations." Sales during year ended March 31 were 9 per cent. up on the previous year and exceeded £78½ millions. For account see *C. & D.*, May 24, p. 552).

LEGAL REPORTS

Alleged False Diagnosis

AT Sutton Coldfield, on June 18, Dr. William Ronald Pitt was charged with obtaining £135 with intent to defraud from David Kenneth Humphreys by falsely pretending that Humphreys was suffering from a serious liver complaint. It was alleged Dr. Pitt had prescribed treatment, which he claimed was not available under the National Health Service, consisting of 135 injections at £1 each. Subsequently another doctor examined Mr. Humphreys and said he was perfectly healthy. Dr. Pitt, pleading "Not Guilty," was committed to Warwick Assizes and granted bail.

IN PARLIAMENT

BY A MEMBER OF THE PRESS

ON June 23 MR. A. BLENKINSOP asked the Minister of Health what was the latest figure for the average cost per prescription under the National Health Service.

THE MINISTER (MR. DEREK WALKER-SMITH) said it was approximately 6s. 4½d. in April 1958. To a further question the Minister said he thought the arrangements made with the drug manufacturers were working properly but he would continue to keep the matter under review. Asked if he would consider the recommendations of the Hinchliffe Committee (see p. 678) that the prices should always be included in the material sent out by drug manufacturers to doctors, the Minister stated he was at present considering the report and was in consultation about it.

MR. J. A. KERSHAW asked if the Minister could say whether the increased cost per prescription was due to more expensive drugs prescribed by doctors, or to greater quantities of cheaper drugs.

MR. DEREK WALKER-SMITH said that an examination of the samples in 1957 showed that expensive corticosteroid preparations which became available in that year, and in 1956, were being increasingly prescribed. He thought that the trend towards expensive preparations had continued but it was not yet possible to speak on trends in 1958.

In a written reply the Minister gave details of the average cost of an N.H.S. prescription in March 1958 in the following towns:—

	s. d.
Bournemouth	6 8½
Eastbourne	7 0

Pharmacy Act Fines

AT Clerkenwell magistrates' court on June 20, Mrs. Evelyn Meredith, trading as Peter Taylor, 18 Park Road, London, N.W.1, pleaded guilty to selling, on March 14, tablets containing codeine and to selling a poison not labelled with the name and address of the seller. Mr. Alastair Sampson prosecuting for the Pharmaceutical Society said that an inspector of the Society went into Mrs. Meredith's shop and purchased a carton of twenty Codis tablets. When the offence was pointed out to her, Mrs. Meredith said that she realised she should not have made the sale, but it was a preparation frequently asked for and she thought she would take a chance. Counsel continued that, in reply to a letter from the Society, Mrs. Meredith wrote: "I wish to say I am very sorry, but by error I passed over the counter a product I am not allowed to sell." She added that she kept the tablets for her own use and they were sold by accident. She told the magistrate that selling the tablets was "a matter of sympathy." "You know you are not supposed to show sympathy or you will be breaking the law all the time. You can show sympathy by telling people to go to a chemist," said the magistrate. Mrs. Meredith was fined £10 on the first summons and £5 on the second. She was also ordered to pay £5 5s. costs.

GALLERY, HOUSE OF COMMONS

Blackpool	...	...	...	...	6	9½
Manchester	...	...	...	...	6	3½
Liverpool	...	...	...	...	5	8
Hull	...	...	...	...	6	1½
Sheffield	...	...	...	...	5	3½
Leeds	...	...	...	...	5	9
Newcastle	...	...	...	...	6	10
Sunderland	...	...	...	...	5	10½

Refunds for N.H.S. employees

Replying to a request by MR. A. BLENKINSOP, the MINISTER OF HEALTH, on June 23, refused to arrange for a refund of National Health Service charges to nurses and other employees of the Health Service.

Russian Vaccine

In a written reply on June 23 to CAPTAIN H. B. KERBY concerning a new Russian vaccine for multiple sclerosis, MR. DEREK WALKER-SMITH revealed there had been no reply to the inquiries which had been sent to the Soviet Union about the vaccine.

Pharmaceutical Committee (Report)

WING COMMANDER BULLUS asked the MINISTER OF HEALTH if he had yet considered the comments of the Central Health Services Council on the report of the subcommittee of the Standing Pharmaceutical Advisory Committee

In a written reply on June 23 MR. DEREK WALKER-SMITH stated that the Council made no comment on the report and he was now considering the recommendations contained in it.

Opticians Bill

In the House of Lords on June 24 the Opticians Bill was read the third time and passed.

BUSINESS CHANGES

THE telephone number of Allen & Hanburys, Ltd., is being changed to Shoreditch 4343 on June 30.

THE Midlands branch sales office of Borax Consolidated, Ltd., is being transferred to Griffin House, 18 Ludgate Hill, Birmingham, 3, on June 30.

P.C. PRODUCTS, LTD., have opened a Manchester office at 3 Cateaton Street, Manchester, 2 (telephone: Blackfriars 1127). Mr. H. Keyworth (divisional sales manager) is in charge.

ASSOCIATED CHEMICAL COMPANIES, LTD., announce that, from July 1 the sales of products manufactured by British Chrome and Chemicals, Ltd., and Brotherton & Co., Ltd., are being handled by a newly-formed subsidiary company, Associated Chemical Companies (Sales), Ltd., with its registered office at Brotherton House, Westgate, Leeds, 1 (P.O. Box No. 6; telephone: 29321).

Appointments

WIGGLESWORTH, LTD., Westhoughton, Bolton, Lancs, have appointed Mr. Stanley Hill their representative in Manchester and East Lancashire area in succession to Mr. P. F. Oldroyd, who is retiring after thirty-six years' service.

BIRTH

CATHRO.—At Elsie Inglis Memorial Hospital, Edinburgh, on June 16, to Rita, wife of George S. Cathro, M.P.S., 142 Brunton Gardens, Edinburgh, 7, a son.

DEATHS

ANDERSON.—On April 5, Mr. Frank Anderson, M.P.S., Myrtleford, Victoria, Australia. Mr. Anderson qualified in 1940.

CHARTERIS.—Of the late David Charteris, whose death took place recently (see *C. & D.*, June 21, p. 657). Mr. J. Anderson Stewart (secretary, Middlesex Pharmaceutical Committee) writes: I was very grieved to read of the death of my old friend David Charteris of Kilsyth, who was in his eighty-seventh year. His apprenticeship was served in Castle Douglas, and he gained experience in the wholesale trade with Evans, Sons, Lescher & Webb, Ltd. (now Evans Medical Supplies, Ltd.). Liverpool, and Cockburn & Co., Ltd., Glasgow, before setting up in business in Kilsyth in the early years of the century. He put that experience to good account, and when I undertook locum duty for him for some nine successive years I found I had to tackle a range of galenicals which he manufactured himself, and which seldom came a locum's way. Mr. Charteris was a life member of the Pharmaceutical Society, though he took little interest in the pharmaceutical political field. He was a regular reader of *THE CHEMIST AND DRUGGIST*. In private life Mr. Charteris was a most kindly man, a keen chess player, and a delightful companion.

CORDEY.—On June 7, Mr. John Affleck Cordey, M.P.S., 28 Ampthill Road, Bedford, aged fifty-seven.

DOWLING.—As a result of an accident on June 19, Mr. Michael Dowling (brother of Dr. Eoin Dowling, M.P.S.I., an examiner of the Pharmaceutical Society of Ireland). Mr. Michael Dowling and his family were spending a vacation at Newcastle, co. Down; his nine-year-old son John, walking along the rocky part of the shore, fell into a deep pool and sank. The father dived in, but both were drowned. Only a few months ago Dr. Dowling was bereaved by the death of another brother.

FAIRBAIRN.—On June 9, Mr. Alexander Fairbairn, M.P.S., Aireville, Blundellsands, Liverpool, 23. Mr. Fairbairn qualified in 1900.

FENTON.—On June 5, Mr. John Peter Fenton, M.P.S., 750 Shettleston Road, Shettleston, Glasgow, E.2, aged sixty-three.

HENDERSON.—As the result of an accident whilst on holiday in Northern Italy, Mr. Clarence Kay Henderson, M.P.S., Christchurch Road, Reading, aged 37. Mr. Henderson was the manager of the Whitley Street, Reading, branch of Boots, Ltd. His wife, Mrs. Pat Henderson, is also a pharmacist.

JONES.—On June 21, Mr. John Morgan Jones, M.P.S., 67 Sherwood Park Road, Mitcham, Surrey. Mr. Jones qualified in 1917.

MALONE.—At 49 Lloyd Street, Coatbridge, on June 16, Mr. William James Malone, M.P.S., aged sixty-nine.

MARKHAM.—On May 31, Mr. Edward James Markham, M.P.S., Arnwood, Winsor Road, Winsor, Woodlands, near Southampton, aged forty-five.

MCGLASHAN.—At an Edinburgh nursing home on June 21, Mr. Duncan Alexander McGlashan, Kingscroft, Barnton, Edinburgh, aged sixty-three. Mr. McGlashan was managing director of Duncan McGlashan, Ltd., manufacturing chemists, Edinburgh.

PARKINSON.—Recently, Mr. S. H. Parkinson, for many years governing director of the Burnley firm of Parkinson, Ltd., manufacturing chemists, aged eighty-five. He was a grandson of the firm's founder, Mr. Richard Parkinson, and had always been actively concerned in the business, playing a considerable part in its development. An illness four years ago curtailed his activities, and he was succeeded as governing director by his son, Mr. Cyril Parkinson, M.P.S.

PHILIP.—On June 9, Mr. George Philip, M.P.S., 8 Meldrum Road, Kirkcaldy, Fife, aged seventy-four.

TAYLOR.—On June 16, Mr. Leonard Harry Taylor, M.P.S., 84 Wellmeadow Road, London, S.E.6, aged seventy-five.

TRIBE.—On June 20, Sir Frank Tribe, K.C.B., K.B.E., aged sixty-four. Sir Frank was Comptroller and Auditor General of the Exchequer and Audit Department from 1946. In his reports on Civil Appropriation Accounts he was often critical of the spending of various Departments, not least that of the Ministry of Health and the cost of the National Health Service.

PERSONALITIES

MR. A. J. HOLDEN, B.Sc., F.R.I.C., manager of the Association of British Chemical Manufacturers, has been appointed general secretary of the Association.

MR. JAMES JOWETT, M.P.S., who is retiring on June 28 after twenty-five years as manager of the Bond Street, Leeds, branch of Boots, Ltd., treated the thirty members of the staff to a coach outing on June 25 as a farewell gesture. The staff presented him with a table lighter and a silver tankard.

MR. H. TEGNER (managing director, Scott & Turner, Ltd., Andrews House, Newcastle-on-Tyne, 1) has been created a Chevalier of the Order of the Belgians. The award, which was for services to Belgium in commercial, industrial and cultural fields, was made to Mr. Tegner during a visit to the Brussels exhibition.

DR. R. F. MONTGOMERIE (director of the Wellcome Foundation's veterinary research activities) has completed twenty-one years' service with the Foundation. Dr. Montgomerie serves on the council of the Royal College of Veterinary Surgeons and on the council of the British Veterinary Association, of which he was president in 1949.

MR. DESMOND F. LEWIS, F.P.S., has passed the final examination of the Council of Legal Education and been called to the Bar by the Honourable Society of Grays Inn. Mr. Lewis served his apprenticeship with Mr. T. J. Williams, Fishguard, Pembrokeshire, and was in the sales department of Glaxo Laboratories, Ltd., Greenford, Middlesex, before joining the administrative staff of the Pharmaceutical Society.

MR. M. W. HUTCHINGS, who contributes an article to this issue on "4,000 Years of Infant Feeding," is medical representative for Cow & Gate, Ltd., Guildford, Surrey. Mr. Hutchings, who has been with the company for over twenty-six years, is a keen and knowledgeable collector, not only of objects associated with his subject, but also of books that contain references to infant feeding at any period of history.

MR. C. W. MAPLETHORPE, F.P.S., F.R.I.C., M.I.Chem.E. (managing director of Allen & Hanburys, Ltd.), has been honoured by the University of Manchester with the honorary degree of Master of Science in recognition of his services to education. Mr. Maplethorpe qualified as a Pharmaceutical Chem-



ist in 1922 and worked in the research laboratories and museum of the Pharmaceutical Society before joining the staff of Allen & Hanburys, Ltd., as a research chemist in 1924. Later he was

appointed head of pharmaceutical production at the company's London factory and in 1932 became factory manager at Ware. He was elected to the board in 1943 and appointed managing director in 1944. Mr. Maplethorpe has been a member of the Council of the Pharmaceutical Society since 1943 and chairman of its education committee since 1945. He is chairman of the British Pharmaceutical Codex Revision Committee and committee responsible for the first British Veterinary Codex. He is a member of the Poisons Board, of the governing body of the Chelsea college of science and technology, and of the council of the School of Pharmacy of the University of London.

MR. A. J. C. GORMLEY recently completed twenty-five years as chairman of the London group of companies associated with the International Chemical Co., Ltd. At a ceremony in London on June 17 attended by the entire staff Mr. A. G. C. Head (vice-chairman) made an address of congratulation. An iced cake was ceremoniously cut and a presentation was made from the staff to Mr. Gormley.



TRADE NOTES

Plastic-box Pack.—Bayer Products, Ltd., Eden Street, Kingston-on-Thames, Surrey, are introducing a new plastic box containing twelve Panadol tablets. The container was devised to meet the need for a convenient pack for over-the-counter sales.

Suppliers of Chemicals.—The advertisement pages of this issue provide a miniature trade directory of suppliers of chemicals for the pharmaceutical industry. The advertisers include BIDDLE, SAWYER & Co., Ltd., 4 Grafton Street, London, W.1; the BRITISH DYEWOOD CO., LTD., 19 St. Vincent Place, Glasgow, C.1; W. J. BUSH & Co., Ltd., London, E.8; CARNEGIES OF WELWYN, LTD., Welwyn Garden City, Herts; the DISTILLERS CO., LTD., chemical division, Devonshire House, Piccadilly, London, W.1; the NITRATE CORPORATION OF CHILE, LTD., 20 Ropemaker Street, London, E.C.2; R. W. GREEFF & Co., Ltd., 31 Gresham Street, London, E.C.2; LAKE & CRUCKSHANK, LTD., North Bridge Road, Berkhamsted, Herts; MAY & BAKER, LTD., Dagenham; JOHN RILEY & SONS, LTD., Hapton, nr. Burnley, Lancs; T. & H. SMITH, LTD., Edinburgh; the WASHINGTON CHEMICAL CO., LTD., Washington, co. Durham; JOSEPH WEIL & SON, LTD., 39 New Broad Street, London, E.C.2; and CHAS. ZIMMERMANN & Co., LTD., Dega Works, Walmgate Road, Perivale, Middlesex.

Drugs and Essential Oils.—BROME & SCHIMMER, LTD., 7 Leather Market, London, S.E.1, handle a "multitude" of botanical drugs, gums, spices, essential oils, waxes, etc.—For spices and

herbs, R. BROOKS & Co., 27 Maiden Lane, London, W.C.2, offer special facilities. A price list is available.—WM. CHAS. BRUMLEU, LTD., 4 Fenchurch Street, London, E.C.3, offer peppermint and other essential oils and drugs.—V.N.K. (UNITED NETHERLANDS HERBCO-OP), Oostendorp, Holland (sole agents for the United Kingdom: F.A.B. PRODUCE, LTD., 87 Regent Street, London, W.1) offer botanical drugs grown and produced in Holland.—H. FRISCHMANN, 4 Lloyd's Avenue, London, E.C.3, invite inquiries for botanical crude drugs, camphor, gums, resins, etc.—MACANDREWS & FORBES, LTD., 2 Caxton Street, London, S.W.1, are manufacturers of the V.B. brand block liquorice juice.—Sandalwood oil is obtainable through the Trade Agent for Mysore, 28 Cockspur Street, London, S.W.1.—JOHN RONALDSON & Co., LTD., 3 Crooked Lane, London, E.C.4, are importers and exporters of herbs, roots, barks, etc., specialising in senna and rauwolfia.—A. F. SUTER & Co., LTD., 15 Philpot Lane, London, E.C.3, specialise in shellacs, gums and waxes.—For Australian eucalyptus oils, the United Kingdom agents (wholesale only) of W. K. BURNSIDE PTY., LTD., Melbourne, Australia, are WILSON & MANSFIELD, LTD., 15 Philpot Lane, London, E.C.3.

Packed Pharmaceuticals.—ROBERT BLACKIE, LTD., Pomeroy Street, London, S.E.14, are packers of pharmaceuticals to the trade (both home and export); chemists' "own name" packs are a speciality.—STAFFORD ALLEN & SONS, LTD., Wharf Road, London, N.1, offer a wide range of B.P.C. and B.P. preparations including liquid extracts, tinctures, ointments, liniments, emulsions, syrups.

Bonus Offers

THAWPIT, LTD., Woodstock Grove, London, W.12. Thawpit cleaning pads. 2s. size. Extra discount of 5 per cent. on orders received up to July 31.

ALLCOCK PRODUCTS, LTD., Liverpool, 20 (agents: Sangars, Ltd.). Scan (for tired eyes). Thirteen to doz. offer ends July 5.

NEW PRODUCTS

Oral Suspension for Scour.—The Distillers Co. (Biochemicals), Ltd., The Broadway, London, S.W.19, are making Streptaqueaine sulpha oral suspension veterinary—a ready-prepared suspension for action against scour. The preparation combines dihydrostreptomycin with sulphadimidine for a double-barrelled attack on bowel infections in veterinary practice. In addition, the suspension contains the traditional bowel absorbents and astringents kaolin and pectin. Streptaqueaine sulpha suspension veterinary is issued in 16-oz. dispensing pack.

Antibacterial Fungicide.—Under the name Episol the Crookes Laboratories, Ltd., Park Royal, London, N.W.10, have developed a new fungicidal product which is claimed to have marked advantages over the older fungicidal remedies, among them that it is also antibacterial especially against Gram-positive organisms; that its low toxicity makes it safe for use even on

babies and young children and that its effectiveness is difficult to inhibit, being even enhanced in contact with serum. Episol is available as lotion in 30-mil bottle (with brush fixed to cap); as cream in 30-gm. tube; and as powder in 30-gm. polythene poufer bottle.

Flavoured Drinking Straws.—Drinking straws made in chocolate and strawberry flavours are being marketed by Flav-R Straws, Ltd., 21 Maddox



Street, London, W.1. Packed in boxes, they are supplied in "space-saving dispensers" for counter display, twenty-four packets in each.

Family Pack.—Brown & Polson, Ltd., 125 Strand, London, W.C.2, have brought out a new family-size pack of their Dextrosol glucose tablets. The pack—"as slim and smooth as a packet of twenty cigarettes"—is being advertised in the Press and there is available a permanent and colourful counter display stand.

Sunning Lotion.—Smith & Nephew, Ltd., Welwyn Garden City, Herts., announce an addition to the Nivea range of sun preparations. Sunea sunning



lotion, a non-greasy, spirit-type lotion, contains one of the modern sun-screen ingredients and an insect repellent. The lotion, which is amber-coloured and non-staining, is contained in an unbreakable plastic, squeeze-type spray bottle with captive cap.

Ever-open Door

A CANADIAN PHARMACY THAT NEVER CLOSES

CLAIMED to be "the world's largest retail drug store" the doorless Montreal Pharmacy, Montreal, Canada, is certainly one of the most novel. Absence of a door is, of course, no handicap, for the pharmacy, with a staff of 264 and delivery service fleet of fifty-two cars, never closes. The "doorless door"—a recent installation and the first of its kind in Canada—was first developed in Switzerland. It provides an air-current so that a flow of air moving downward from ceiling to floor, gentle enough not to disturb a customer's hair, effects a seal which effectively excludes dust, insects and climatic variations from the shop. The air, heated or cooled as occasion demands, is finally sucked through a floor grating where it is filtered, cleaned and re-circulated.

Owned jointly by J. P. Duquet and C. Duquette, the pharmacy has a floor space of 32,500 sq. ft., spread over five floors. A feature of the 20 ft. by 60 ft. dispensary is the display above it of a row of eighteenth-century drug jars which were brought back recently from France by Mr. Duquette. Thirty-one telephones are installed and a staff of bilingual assistants (French-English) deal with the thousands of phone orders. A Kardex system records stocks of drugs and cosmetics (giving price, size, maker and stock number) and so helps to simplify the mammoth volume of business.

Shift System

In the basement a staff of twenty-one works in three shifts, preparing pharmaceuticals for the dispensary, which is located on the first floor. Also on the first floor are the merchandising departments, which handle cosmetics, photographic requirements, baby products, etc. The proprietors' office and an orthopaedic section occupy the mezzanine floor, while on the second floor are general offices and a photo-finishing section which offers a two-hour service. The third floor accommodates a stock room and receiving room. On the fourth are the office of the buyer, space for overstock and a laundry for staff uniforms, while a mail-order department and additional overstock occupy the fifth floor.



Assistants compounding medicines, typing labels, etc., in the prescription department. The head of the department is Mr. Marquis (right centre).

Below: A general view of the selling departments of the store.



Vitamin C from the Hedgerows

The romantic story of a war-time venture
that has become a peace-time success

A PRODUCT that started as a war-time venture—a rose-hip syrup—has survived the competition of peace-time plenty and even broken into the export market. Behind that factual statement is a wealth of human enterprise that has culminated in a finished article which the two remaining members of the National Rose Hip Products Association—Paines & Byrne, Ltd., Greenford, Middlesex, and Scott & Turner, Ltd., Newcastle-on-Tyne—are proud to claim is British from raw material to bottle, bottle cap and label.

It was in 1941 that the Ministry of Health, concerned about the shortage of fresh fruit, suggested that rose hips should be used as a source of vitamin C. For many years it had been known that the rose hip had a high vitamin C content, but the difficulty of extraction without destroying the vitamin, coupled with the troublesome nature of hairs and pips from a manufacturing point of view, had deferred widespread application of that knowledge. War-time needs spurred the pharmaceutical industry to many achievements, however, and the problems of producing rose-hip syrup to a standard of 200 mgm. of vitamin C per 100 mils, as approved by the Ministry, were surmounted by members of the newly formed National Rose Hip Products Association.

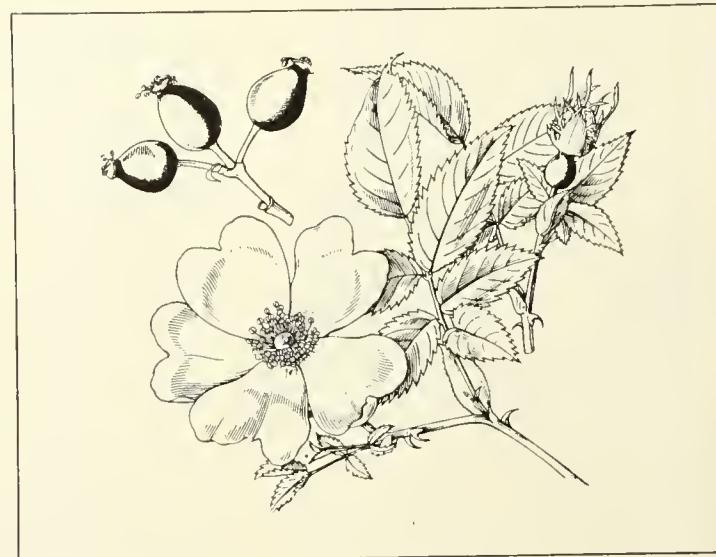
North Beats South

The fruit of the sweet-briar (or eglantine) rose hip has a long history of use in medicines and confections. It was used by the ancient Greek and by the Arab physicians. In Pereira's "Elements of Materia Medica" (1872), there is a recipe for a confection of rose fruits. *Rosa canina* and *Rosa mollis* are the favoured plants today, and Scottish hips and those from the North of England have a much higher vitamin content than those from any other part of the British Isles. As in the dark days of the war, members of the public in Scotland and in six northern counties of England still perform a useful function in the collection of the fruit. In many areas the war-time herb committees continue to operate, and in others the work is organised by education authorities, the Women's Voluntary Services, Scottish Women's Rural Institutes, Boy Scouts, Girl Guides, British Red Cross Society and other voluntary organisations. In particular the September to October harvesting of the fruit has become a feature of the North Country scene and one that is eagerly awaited by the children, who regard the collection—which, incidentally, does not interfere with school activities—as a source of pocket money. Other groups have been able to donate their collection money to charity. Over the years, for example, one voluntary organiser has given £1,000 to worthy causes, and pupils at Auchterarder, Perthshire, recently used the money earned to purchase a film projector for the school.

Collection is organised on a national basis on behalf of the Association by Messrs. Scott & Turner, and the happiest relationships are maintained between firm and collectors. The size of the undertaking may be judged from the fact that about 65,000 "collectors'" badges, the design of which is changed periodically, are issued to children every year. The net result of the labour, however, is a quantity of raw material in the region of 600 tons. Labels and sacks are maintained at the collecting centres and, once gathered, the hips are transported to cold store to await delivery to the factories as required.

Tonnage of hips collected varies from year to year, and an experimental step at organised cultivation to supplement

collection has been taken by Messrs. Scott & Turner who, at a five-acre disused pit heap north of Newcastle, have had between 15,000 and 20,000 plants set out. It will be about three years, however, before they are producing fruit. On a specially prepared plot at the same site a horticultural expert grows nineteen varieties of rose hip.

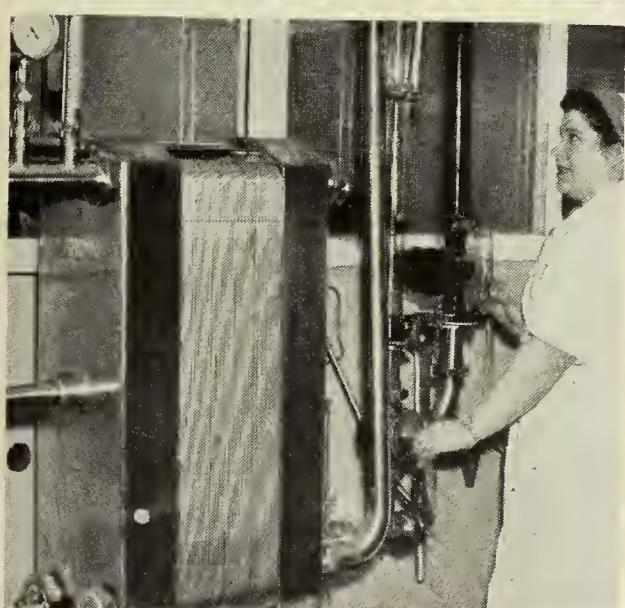
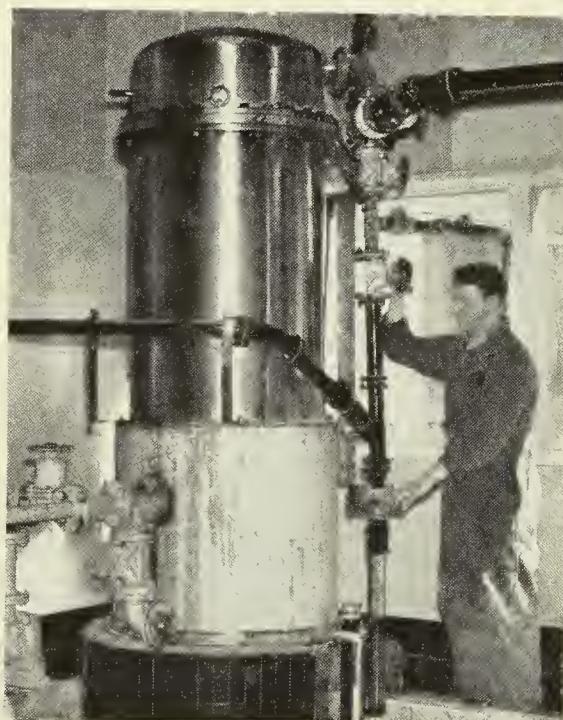
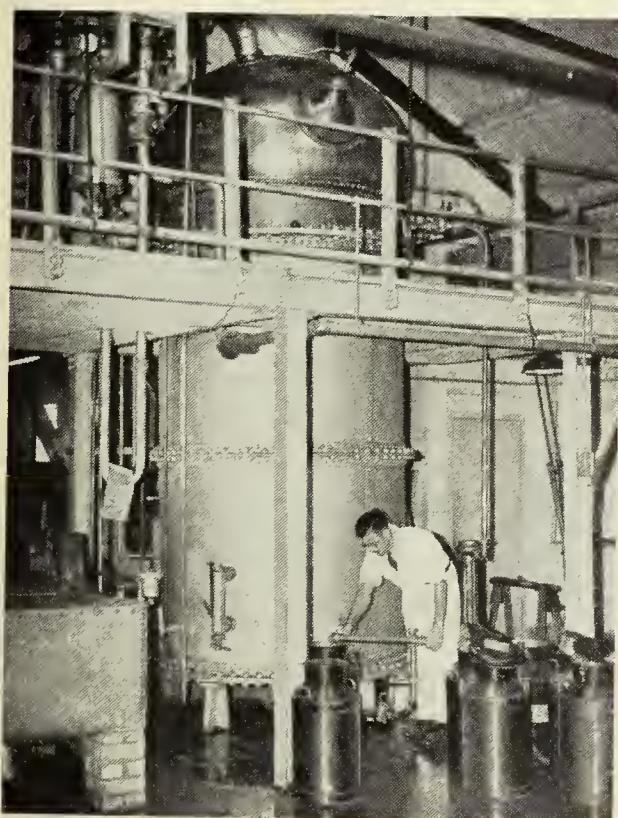
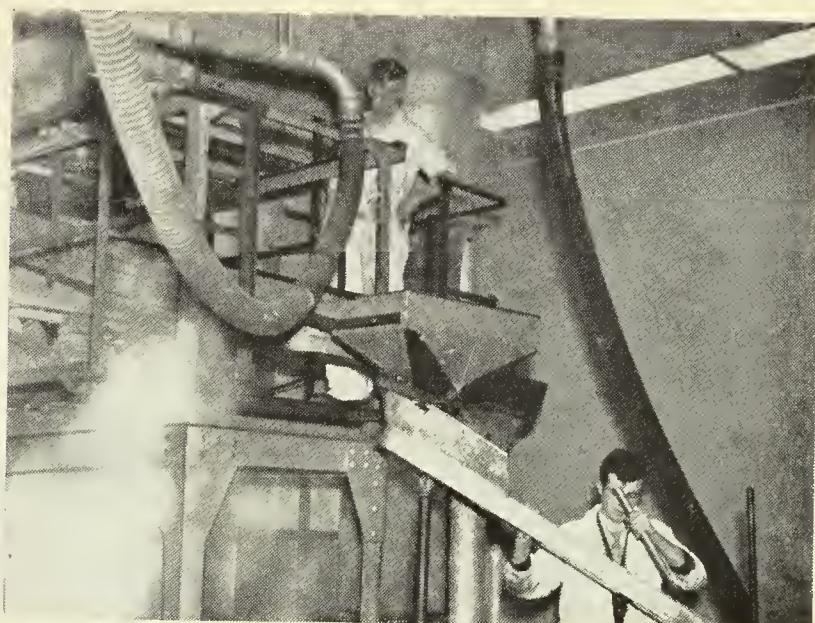


The dog rose, *Rosa canina* L. var. *Lutetiana* (Lem.) Baker. Reduced from part of a full-page plate in Ross-Craig's "Drawings of British Plants," parts VII-IX (G. Bell & Sons, Ltd., London).

In the process of manufacture at the factory of Scott & Turner, Ltd., the hips are brought from cold storage and placed in a hopper. Released from the hopper they flow along a belt mechanism beneath powerful magnets, which remove any metallic substance that may have found its way among the hips. Conveyed up to a "butcher's mill," the hips are split and the pulp thrown on to vibrating screens, from where it tumbles down to the extraction plant. Water added, the "meat" is boiled up for thirty-five minutes for a first extraction, a sample being sent to the laboratory for analysis of vitamin content. After a second extraction the liquor is pumped from the netlined boiler through muslin to intermediate storage tanks, whence it passes to a climbing film evaporator capable of handling about 300 gall. per hour. The concentrate is stored and syrups. Sulphur dioxide is added as a preservative and finally the product passes through Metafilters to clarify. Before being bottled the syrup is pasteurised at 75° C.

Basically the same initial stages of manufacture are followed by Messrs. Paines & Byrne up to the point of the production of the concentrate. Their method, however, is to place it in 6-gall. and 10-gall. drums in a cold store and to syrup as required. The final product is not clarified but pasteurised and bottled under vacuum.

Both manufacturers maintain strict laboratory control over their product and, by packing at a vitamin content 15-20 per cent. higher than that specified, ensure that the pharmacist can guarantee full vitamin content at the time of sale. It is a happy reflection on the quality of the product that a healthy home market has been maintained and that ventures into the export market (in Europe and the Far East in particular) have been highly successful.



**STAGES
IN THE
MANUFACTURE
OF
ROSE HIP
SYRUP**

The frozen hips are carried beneath powerful magnets (picture, top left) which remove any metallic substance that may have found its way among the hips. The chopped hips tumble from the "butcher's" mill (top right) into the extraction plant from which steam is seen rising. The concentrate is filled into 6-gall. and 10-gall. drums prior to transport to cold storage. A Metafilter clarifies the finished product (centre, right), which is pasteurised before bottling (bottom, left). A laboratory test on the bottled product for yeast products is among the routine procedures (bottom, right) that ensure a product in which the retail pharmacist can have every confidence.

STERILE AT THE MOMENT OF USE

DRY, sterilised needles and syringes are essential to modern hospital practice, both for the giving of injections and for the taking of blood samples for pathological investigation. An investigation by Dr. P. W. S. Gray, senior anaesthetist at Chase Farm Hospital, Enfield, revealed that the methods in use at the hospital for sterilising syringes by boiling or chemical treatment were uneconomical and time-consuming, and could not inspire confidence that they were invariably up to the necessary standard of asepsis. Many investigations, moreover, demanded a dry syringe.

Apart from the fact that a centralised distribution service of sterile syringes might prove, from an economic point of

view, an advantage to the efficient running of the hospital, there was also the risk that multiplied methods of handling might also multiply the risks of asepsis. With the backing of the hospital management committee Dr. Gray set himself to organise such a service, not only for the various wards at Chase Farm but for its operating theatres and pathology department, and for the other hospitals in the group.

The accompanying pictures and their captions tell what happens under the hospital's service to a syringe between the time it is emptied of its contents until it arrives back at one of the points at which it will be used to give another injection.



In one of the wards at Chase Farm Hospital a syringe has just been used. It is taken to a table where certain vessels and containers are laid out.



The syringe and needle are washed, rinsed in a solution provided, and put, with needle attached, into an individual aluminium container.



The glass tube, which encased the needle on its arrival at the ward, is put into a box provided by the service. The syringe in its aluminium container and the glass tube are set aside for collection. At set times the hospital syringe service's own delivery trolley collects the empty syringes, delivering at the same time the sterile replacements. The exchange is on a one-for-one basis. Each ward has a quota.



The trolley returns to the department, where the syringes are taken apart for washing. A recalcitrant barrel is helped on with a little water pressure behind.



The barrel is cleaned with an electrically operated brush switched on or off by the operator's knee. The brushed barrel and other glass parts are rinsed under the tap.



The rinsing in tap water is followed by a rinsing in distilled water in bowls which are frequently changed.



The needle hub is given its own brushing.



If necessary the needle is resharpened.



All parts are dried in an electric oven.

How a service for wards and theatres is operated at Chase Farm Hospital, Enfield



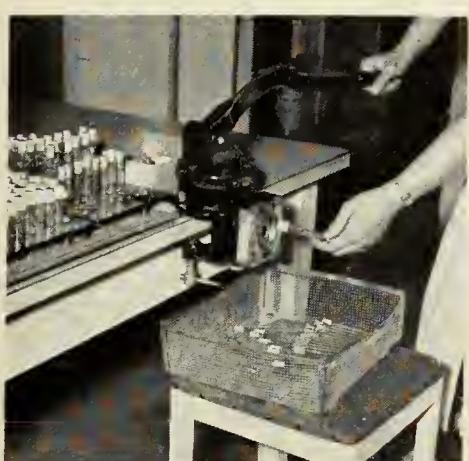
They are inspected for cleanliness. The glass parts are lubricated in a silicone lubricant (MS550).



The syringe in its aluminium container is given a plug of cotton wool.



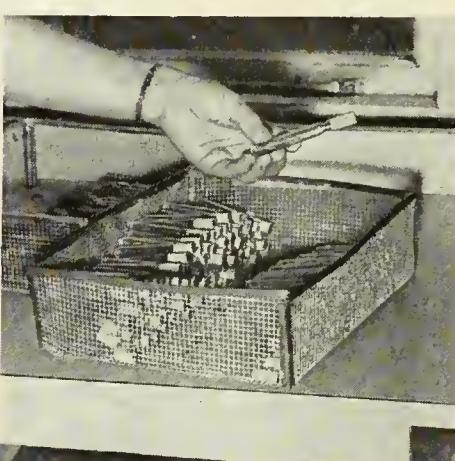
With others it is dry-heat sterilised in a thermostatically controlled electric oven.



On the glass tube for the needle is placed a metal-foil bottle cap, which is given a tight fit by insertion in the orifice of a bench-side machine that applies pressure all round before sterilisation.



After sterilisation, the metal container for the syringe is given a Viskring shrink seal over a headed metal ribbon that will later give a clean break when the cap comes to be removed.



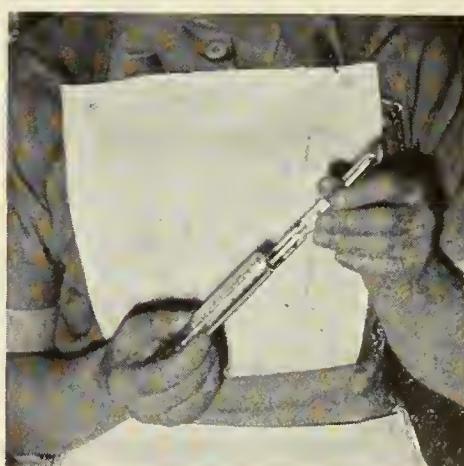
After sterilisation of the capped tube for the needle a thread is laid along the cap and an outer Viskring (one of four code colours) placed over it. The metal tube containing the syringe is also Viskringed, the final appearance being as shown.



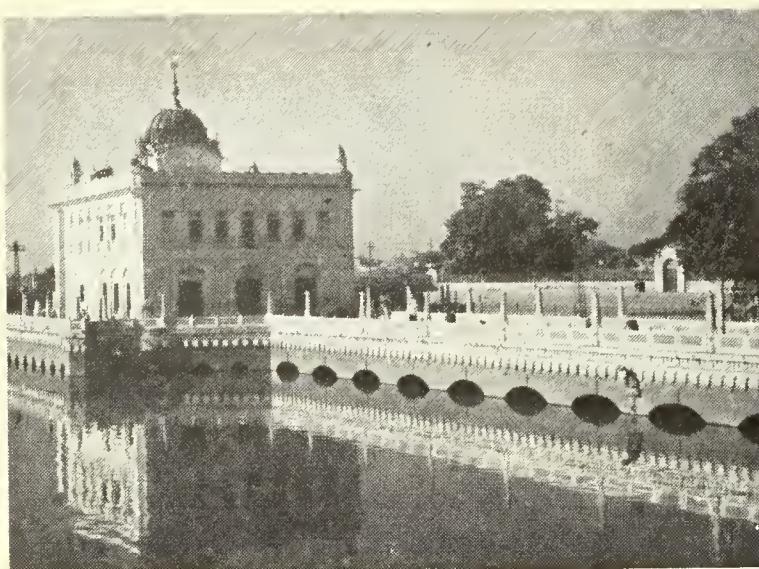
The sterilised syringe is now effectively capped against contamination from infecting organisms. For temporary storage in the department the trays of syringes and needles are placed on shelves in a fixture having sliding glass doors on both sides. Put in from the rear, they are taken out from the front. To ensure strict sequence in use, trays are taken from the lowest shelves upwards. Before new trays are put in, those remaining after a ward collection are moved down to occupy the lowest positions.



For delivery to other hospitals in the group the syringes are loaded into special fibre-board transit boxes.



For the points of use at Chase Farm the syringes are taken round by trolley. There remains one last point at which protection needs to be given against risk of contamination, namely in the placing of the needle on the syringe. That is taken care of. When the cap is removed from the glass tube, the syringe is made to "fall" on to the nozzle and only "firmed" by hand.



Left: The Durgiana Temple at Amritsar. Centre: The Kutub Minar at Delhi. Right: Miss Rumble in the sari she brought back with her from India.

Holiday in INDIA

Ambitious venture of a pharmacist's dispensing assistant

LAURENCE DOPSON

MISS Jessie Rumble, who is employed as a dispenser at the pharmacy of Saunders, Highgate village, is planning her next holiday in the same place as her last: India. She cannot make her holiday an annual affair. That other holiday cost her £500, and involved her in a flight of many thousands of miles. It all began with a pen friendship with a Parsee girl, begun when she was fifteen through an organisation called Links of Empire.

"I always wanted to go East," she said. "My friend, whom I had never seen, kept saying in her letters how nice it would be if I could come. So I thought: 'Why shouldn't I?' And I went." Miss Rumble was careful to take with her drugs against malaria and dysentery and to ward off mosquitoes. "I met tourists who had had dysentery out there, but I never had a touch of it."

In planning her first trip to India Miss Rumble's main preoccupation was to keep her luggage within the 44 lb. weight limit for the flight. She took a white linen suit and white linen court shoes ("sandals aren't comfortable in the heat and let in the dust"), two short evening dresses, several easily laundered cotton dresses, a light summer coat, and two hats. The hats were a nuisance to pack and, in fact, she never wore them.

Husband and Wife in Hospital

When the plane touched down at Bombay a car was waiting to take her to the Parsee hospital, to which her friend had been, a few days previously, admitted for an emergency appendectomy. Miss Rumble found one striking difference between the Parsee Hospital at Bombay and a hospital in England: "In India, when the wife goes into hospital, the husband stays there, too (except, of course, in maternity hospitals)." Miss Rumble did not remain to look at the pharmacy department of the hospital. "I was on holiday," she said.

Later, however, she went into chemists' shops in Bombay and other Indian towns. "They were all clean and modern, and everything was under glass and under cover. But I didn't see any women assistants. All were men, and all in long white coats." The pharmacies were of the same form as in this country, and sold the same kinds of goods. Almost everything that could be obtained in English pharmacies

could be purchased there, but everything was much more expensive. Some large companies have factories in India, but the majority of products are imported. Indian chemists carried as wide a range of cosmetics as English pharmacies, but at about three times the price. A toilet-size cake of Yardley soap cost the equivalent of 9s. 6d.

In addition to Western pharmacies, there were Indian drug shops where native remedies could be purchased, but she did not venture into any of them. "If you go into an Indian dress or jeweller's shop the first thing they do is to invite you to sit down. Then they offer you a cup of tea and other refreshments." That did not happen in the pharmacies, where the purchaser would not spend long over his purchase. "Everyone was so polite," says Miss Rumble. "And as soon as they knew I was English they couldn't do too much for me. Everywhere the English were very popular."

Enjoying the hospitality of her Parsee friends, Miss Rumble was able to see things which a normal visitor would not. They took her, for example, to a Hindu burning ghat, where the corpse was consumed on a funeral pyre. ("It was on a Sunday morning in brilliant sunshine, otherwise I would not have felt so brave about it.") A more exotic



Miss Rumble with friends during a trip to the tiger and jungle country at Mahableshwar, near Poona.



The amateur photographer interested in people finds no lack of interested and unselfconscious subjects.

experience was a Parsee wedding. The bride and bridegroom sat under a canopy on a carpet of flowers. The air was heavy with natural perfume from shrubs and trees, and the 2,000 guests were in evening dress. In the middle of the marriage service it started to rain—and all the guests ran for cover, where the tables were laid nearby. There, without waiting for the ceremony to be completed and the bride and bridegroom to join them, they set to at the feast. At the wedding the men and women sat separately; at the feast side by side.

Inside India Miss Rumble travelled 3,000 miles by Air India plane at a total cost of £33. She visited the Taj Mahal at Agra and flew on to Aurangabad to see the famed caves of Allora and Ajanta. She arrived in Delhi at the tail end of the monsoon season and came in for a sample of its torrential rain. She had just got to sleep in the £5-a-day Imperial Hotel when at 1 a.m., her veranda doors open in the heat, the rain came, driving in with such force that it struck the opposite wall. Another experience in Delhi was an earthquake. Everything rattled and she was alarmed, but less so than three people in a different part of the city, who jumped out of windows and were killed. She also saw thousands of refugees from the floods camped in the grounds of the historic Red Fort. What appealed to her above all was India's beauty: the vivid sunsets, sparkling double rainbows, the silks. She bought a sari, which she wears at home in Hampstead in the evenings. "Underneath a sari you wear a choli blouse and a special waist slip extending to the ground, its purpose to tuck your sari into. The sari is six yards long, embroidered on the border and at one end. You take the end that is not embroidered,



The pedestrian still dominates the street scene in an Indian city.

tuck it in at the waist, working towards the waist and making folds here and there, until you come right round to where you started. Then taking hold of the embroidered end you make pleats of that, pass it under your left arm and round the back under the right arm, across the front, and pass it over the left shoulder. Now you're left with a loop of material.

"This is the intricate part," warns Miss Rumble. "You make more pleats of it, which you tuck in slightly to the left on the waist line, finally arranging the folds so that they fall neatly."

Miss Rumble has been with her employer, Mr. George Simkins for ten years and finds him accommodating in his attitude to her going abroad. "She saves up her holidays," he explains. She has to save up her money, too. In 1960



Imperial Hotel, New Delhi.

she plans to go to Southern India (Madras, Mysore and Bangalore). "I want to see the temples and the lakes, the jungles and spice gardens of Travancore-Cochin. I want to go to Ceylon. I would like to travel up to Calcutta and Darjeeling, and get a distant glimpse of Mount Everest. Then I'd like to fly to Rangoon in Burma to see the Shwe Dagong pagoda, which I'm told is even more beautiful than the Taj Mahal." Perhaps Miss Rumble will create a fashion in Indian holiday tours.

ECHOES OF THE PAST

WINE IN MALIGNANT FEVERS

From "Every Man's Magazine, or The Monthly Repository of Science, Instruction and Amusement," September 1771.

By Dr. JOHN ACOLUTHUS

I CALLED to mind the advice which Langius (Miscellan. Curios. Medic.) gives physicians, when, in malignant fevers, the patients are not altered. "Experience teaches us, says this author, that it is sometimes necessary in fevers to excite thirst, and revive natural heat, by permitting the sick the use of wine; and that it is dangerous, in any cases, to conform to the common practice of some physicians, who forbid their patients wine in all sorts of fevers." Continuing the use of the just mentioned electuary, I had therefore recourse to that agreeable remedy, and prescribed Rhenish wine for my patient's common drink, of which he drank to the amount of a quart in four-and-twenty hours. I soon perceived, that he who was in a dying condition resumed gradually strength: His heat was considerably increased, his pulse much stronger, and his sleep more quiet. The use of reason, which he had lost for a fortnight together, came to him by intervals; the convulsive motions became more calm; the urine shewed constant signs of coction; and the remaining symptoms seemed to yield to the use of a preparation of coral, crabs-eyes, mineral bezoar, and solar sulphur; so that the patient perceived a return of strength, though slowly, and had only some slight convulsions in the hands; but a few doses of acid elixir proprietatis, joined to the essence of tartarised castoreum, were sufficient for allaying them. A stomachic balsamic essence completed his cure; and, having then almost recovered his strength, I purged him with jalap.



Fore-runners of the Electric Blanket

SOME PERSONAL HEATERS OF THE PAST

THE primitive pleasure of warming oneself is amusingly expressed in the mediæval wood carving in Ludlow, Shropshire, parish church, used at the headpiece to this page. But it is not always possible to have a fire to sit by, and through the years to the present age of the electric blanket, inventive powers have been applied to the problem of making warmers for personal use.

Charcoal, ashes, heated bricks and hot water have been variously used as the heat source, and numerous gadgets have been devised, especially for the three chilly occasions of going to bed, going to church, and travelling.

Most out-dated warmers have, like a perished hot-water bottle, ended their days in the dustbin, but in recent years some have begun to be valued for their intrinsic interest in reflecting a past way of life. The majority of the objects

here illustrated are of warmers in a private collection at Tickenhill, Wors.

Among them some readers may have the agreeable shock of seeing

again common objects of their childhood. About the items shown there is, alas, little literature available, and the captions to the illustrations must be left to speak for themselves.

Charcoal was a portable fuel that offered many possibilities for personal warming. It could be bought ready-prepared or made at home by slowly burning wood in a metal brazier (1). Thus prepared it could, when re-heated, be placed in a container sufficiently well ventilated to keep the fuel burning. Mishaps must have been frequent and hardly worth the risk for so localised an effect.

Among rarer early warmers is the early seventeenth-century glazed earthenware brazier (illustration 2). About 8 in. tall, it is on loan from London's Guildhall museum and is now on show in the Blakesley Hall branch of the Birmingham City museum. It was made ready with charcoal inserted through a hole in the side of the base, as with the pastille burners of the following century. The heater shown is hardly large enough to have warmed more than one's hands.

Of the same period is the brass warming-pan lid (3) in which holes have been pierced, possibly to keep alive the ashes within. It is exhibited in the church-porch museum at Stanton, Glos., and bears the date 163(?) and the inscription "THE LORD IS OUR DEFENCE."

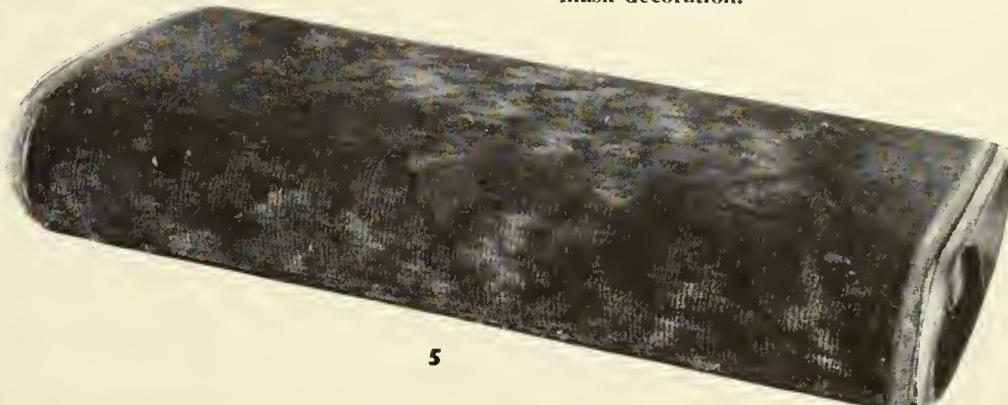




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7. In early Victorian winters the hand-warmer shown was in use. Often carried inside a muff, it gave heat for several hours from the burning charcoal sticks inside the double casing of metal. A safety-chain was attached. There was a version of the muff heater for men (8). It was a moquette-covered container for slipping into the pocket. 9. Embossed with leaves and a royal coat of arms, the stoneware foot-warmer could be taken to church or used in coaches or trains. 10. For those suffering from cold fingers and a short purse hot bricks (usually wrapped in flannel) were available. They had the advantage in that there was no danger from leaks or spills. The one shown was made in Stourbridge, Worcs. 11. Glazed earthenware containers shaped like a boot were used for warming footwear. 12. More elaborate than the other foot warmers shown is the upholstered footstool, concealing a copper hot-water container.

4. Although hot ashes were replaced by hot water in bed warmers, the long-handled design persisted in the copper example illustrated. 5. In some first-class railway carriages passengers had the luxury of a long, carpet-covered foot heater. 6. A development of the copper bed warmer was the warming bottle. An endless variety of shapes were produced. The one shown was the prototype for today's hot-water bottle. It has a snake-like handle and fox's mask decoration.

An Anonymous Apothecary

Diary entries that reveal a quest for medical knowledge

C. G. DRUMMOND

IN thinking of the eighteenth century one tends to conjure up visions of ease and elegance—of drawing-rooms magnificently furnished—of gentlemen with tied-wigs and silk stockings—of ladies in hooped dresses—of sedan chairs. One thinks of Bath and of Tunbridge Wells, of Johnson's London and Hanoverian Edinburgh. And the picture is superficially a true one.

But what lay behind the façade of elegance? Disease, undoubtedly—for progress in sanitation and public health was slow, and there was much that was primitive. The doctors of those days had an unenviable task. They had, for example, unlimited and unsought opportunity of studying smallpox, and it must have taken immense courage to treat that disease in the midst of widespread epidemic.

In the first half of the eighteenth century an apothecary lived and worked in the district of Dalkeith, in Midlothian. Who he was is not known, but he left behind him a manuscript volume of medieval practice in the area between the years of 1733 and 1735¹. Though he left no name, he has bequeathed to posterity enough material to enable an assessment to be made of his character. He possessed admirable qualities—careful observation, courage, and the questing mind which leads to progress. He was a man of wide culture. Copious notes are written on such diverse subjects as physics, theology, philosophy and painting, many of them copied laboriously from works of an earlier period. He "had the Latin" as they expressed it in Scotland, and evidence appears of more than a mere nodding acquaintance with Greek and with French.

I have described him as an apothecary. He was, in all probability, a surgeon-apothecary in the direct line of James Borthwick, the first of them all in Scotland. His practice was extensive, embracing all classes of a country community, and he worked in close consultation with a number of famous physicians of the recently established School of Medicine in the University of Edinburgh.

Smallpox, as has been indicated, was common. Indeed, it was almost constantly in evidence, and a particularly severe outbreak occurred in 1733. A log entry indicates:

"Jan 26, Saturday, 1734.

The sm. pox had not as yet left us in this country, they had been raging in Edr. (Edinburgh) for sometime past & very fatal to several, viz. 3 children of Mrs. Wights, 3 of Mr. Mackys the professor, two of Mr. Guilds, 3 of Mrs. Barclay, Sir James Stuart's uncle & Jamie Stuart, Sr. James's nephew also dy'd, &c. . . [also] a young man, he was thrice bled, of twenty years of age, dy'd. At Newton, a little town in the neighbourhood of Dalkeith, there dy'd fourteen only out of a great number, whereof none allmost had any kind of physick or bleeding. Just now they are frequent at Cowdon, a little town above this place, but in the town of Dalkeith itself they go on but slowly. Sir Willm. Cockburn's son Markey, he was twice bled in the beginning & once vomited. . . He was purged with a ptisan of tamarinds and senna on the 8th day. Dy'd on 10th or 11th day very suddenly."

It is possible to sense in the quotation a slight doubt in the efficacy of the orthodox treatment. Deaths occurred after bleeding and purging yet there is the observation that mortality was low at Newton, "whereof none allmost had any kind of physick or bleeding." A few months earlier, the unknown apothecary was recording criticism of the great Sydenham himself, and at the same time admitting the existence of a language that, while it had its uses, had little real meaning. Sydenham had flourished in the previous century, and was still regarded as the ultimate authority. To criticise his pronouncements, even in a private journal, is an indication of the questioning mind.

"Sydenham does not distinguish or give names to more kinds of the sm. pox than two, viz. the Distinct & Confluent, yet there are several sub-divisions may be made . . . for it is absolutely necessary to give names to things that we may understand one another in physick tho' often we mean no more of what is real by these names than the astronomers do by the signs of the zodiac, & in this respect also we are obliged to frame hypotheses to ourselves in which kind none are more fruitful than Sydenham himself—witness what he speaks of sufflaminating, or checking the rarefaction of the blood of febrile ebullitions & of a disorderly or irregular motion of the spirits." (Saturday October 27, 1733.)

As one would expect of a country doctor, there is displayed from time to time a knowledge of the habits of the populace, and occasionally the apothecary permits himself a recorded expression of opinion which was intended for his eye alone. One feels sure that he would be very discreet in his direct dealings with the titled people of the county. He attended Lady Dalhousie for a strange condition, the symptoms of which were detailed at length by the patient herself during intervals in her suffering. The lady's own description occupies a full page.

"Jan. 2nd, 1735.

I was called to My Lady Dalhousie this day immediately after dinner. I found her in a fainting fitt lying on bed & speechless, with a very unequal pulse. . . .

(Here follows the patient's description)

. . . I reckon'd the true reason of her fitt at the time rather proceeded from a cold for which she had got the Pil. mathei & from sitting up late att nights playing att cards."

Pil. mathei contained Virginian Snake-root, Russian castor, English Saffron and Opium. They were known also as Pilula Pacificae or Anodyne Pills.

An enema was ordered:

R Urin. recent 3 x.
Butyr. Salit.
Ol. Chamomil. aa 3 i.
Ol. Succin non rectificat 3 iii.
Hier Picr. 3 i. ss.
m.f.s.a. Clysma calida injiciendum.

The heroic treatment was successful.

The use of opium was widespread, and pil. mathei and Sydenham's laudanum appear frequently in the work. The latter was, of course, a famous preparation containing opium along with saffron, cloves and cinnamon. Indeed, opium was prescribed with such freedom as to arouse doubts in the apothecary of the wisdom of the procedure, and such doubts are expressed on several occasions, e.g.:—

"Perhaps in the preceding case it was wrong to have given so much of opiates because her spirits were naturally and otherwise so low. Perhaps even the opiates brought on that delicacy of her spirits that made her faint upon the least turn in bed. At least I learned so of My Lady Dalhousie, Lady Anne Ramsay & My Lord Dalhousie who all of them upon using the simple pilula mathei for some time fell into faintish fitts, benumbness, insensibility & other bad effects of opiates."

But while our apothecary did not hesitate to question his own judgment, or that of accepted medical practice of the day, he resented advice from the outside. One can imagine the trying nature of the day which caused him to write:

"It is certainly a wrong thing in a physician to have any sort of regard to what people say & often leads us into wrong practice. How common it is in fevers, & yet how dangerous to Blister in a strong delirium with a strong & quick pulse, yet perhaps this is often done for no other reason but because one has done before all the other common things, & if the patient should die it would be objected that such a thing had not been try'd. One ought all ways to pursue their point or general aim & design sturdily (sans être ébranlé) & if one has

only in his veins the intention of doing good, why should he be shaken or directed from it by any one's importunity?"

Why indeed? "Patient pressure" would appear to be older than a National Health Service. And yet the converse shows itself in another entry:

"Mrs. Smith, a Baxter's wife in Dalkeith"—her treatment had been bleeding, vomiting and Pil. mattheus, and she had died—"Mr. Scott had the prudence not to allow her opiate to be given her that night when she died because in that case they might have ascrib'd her death to the pill."

There is every appearance of a dilemma if those paragraphs are read in conjunction. But dilemma was not the prerogative of the medical profession. There is the case of Mr. Wilson.

"This young gentleman being a young man of a thin complexion & habit, of a pretty lively temper when in company he liked, though at other times morose & surly and subject to thoughtfulness, first advis'd with me in summer 1732 in the month of May about his health. He had been for some time perplex'd with the solicitations of his father & other friends about what kind of life he should follow, they inclining he should pursue the study of Divinity to which they had design'd him since he left the college & he rather inclining to the business of physick or anything else rather than that he had hitherto been design'd for. At the same time, living in the country with his father where he had little or no conversation, & ty'd up to strick & regular methods of living, going to devotion and Kirks which were none of them very much to his mind, which was rather inclin'd to freethinking in matters of religion, he contracted first a surliness of temper and aversion to all manner of company, especially of women. . . ."

So step by step, we learn the complex factors which unite to produce a misogynist!

Psycho-analysis is not a twentieth-century development, though there is recorded a sad occasion when the diagnosis went astray. The case was that of a small boy who was undergoing treatment for chincough (whooping-cough), of which there was an epidemic early in the year of 1735:

"The Case of Johnnie Johnston (8 years) Jany. 26, 1735. [N.B. This boy being extremely indulg'd by his Aunt sometimes feigns his sickness worse on purpose to fright his Aunt & make her believe he is worse than he really is for to obtain his ends, so that sometimes he will pretend a pain in his head, another time in his belly where there is really none at all & perhaps we have been cheated this way in several symptoms of the disease.]"

Poor Johnnie may have deceived his medical attendants, but he succumbed on February 23, 1735, and a post-mortem disclosed tubercle. Treatment of consumption followed the customary pattern, bleeding and purging playing a part. The case of John Laing, in February 1734, suggests that eighteenth-century life was not all ease, elegance and dalliance:

"A lad of thin tender constitution was put to Mr. Keir, Loaf Baxter of Dalkeith & kept long att hard work & frequently exposed to cold—a chinking cough, night sweating—frequent asthmatick fits that came on in the night. Had been bled for his cough & asthma about 8 days before, tho' without much sensible benefit. I prescribed first of all a potion of

Senna 3 ii ss.
Crem Tart 3 ii.
Tamarinds 3 ii.

infused with lbs. iii aq. cois ad lbs. ii (i.e. boiled to a volume of two pounds or pints) with Manna 3ij. Syr. Violar 3ii

Cuts that were only cured by a long course of bleeding. The lad being thus of a thin tender Constitution was putt to Mr. Loaf Baxter & kept long att hard work, & frequently exposed to cold. When he came out to Dalkeith he had a chinking cough, night sweatings never any gruings nor sensible colick. Full flushings sometimes towards his face. A little time before became here he had an Itchy or scab which corruption on his leg which he put back with King James Tart or Bals. Universales he found a swelling upon motion or riding more or less of these burning swellings here & there on his legs! But what he complain'd most of all was frequent asthmatick fits that came upon him sometimes in the night time so that he was like to faint away these fits were sometimes brought on with the saying he has no pain considerably in his side—but less & first on the right side he told me he had been bled for his cough & asthma about 8 days before he came out tho' without much sensible benefit his pulse was extremely quick & somewhat hard tongue white & fur'd with a considerable drought belly neither very open nor bound. Recd. Crem. Tart. 3ii infused with Tamarind 3ii with Manna 3ib syr. Violar 3ii to be taken in gills till it should work he took $\frac{2}{3}$ of the bottle & it purg'd him 3 times in the afternoon that same day he was sensibly freer of his cough than he had been before but about the evening he took something of a sudden kind of painishness & groan'd with a shortness of breath of this he soon again recovered. rested but indifferently all night next day I ordered for him a Jyldromel, a Linctus & 2 pouds of the Rectal Decoction. but in two or three days after I was informed by him that the purging had never left him a altogether since his physick but disturbed him sometimes even 4 or 5 times in the night time with colliquative sneats also sometimes in the night time & violent returns of the asthmatick fits or difficulty of breathing all this time hitherto he had lived on Bear meat porridge in the mornings with milk, Broths chiefly all dinner or roasted & boiled hens & chicken & soups sometimes att supper. he was now confined to a milky diet consisting of cow-milk. the white Decoction & milk & water boild for ordinary drink spoonfuls now & then of Decoction. Diazord. as Palliatives to his colliquative flux but what seem'd most of all useful to him was the Pil. Matthei of XII all night which he could never want without a great deal of uneasines which happen'd at any time they were neglected. I gave him also a small strengthening decoction of the Bitters with Cork. Peruvian. His infusion among 3vii of Ag. Calcis Aleister. of this he got spoonfuls evening & morning some Days. The Dr. Dr. Cochran came out to see him he proposed omitting to stop his loofeness & to carry off somewhat the white to a spoonful of his Drict. all sometimes to make that Decoction wth Ag. Calcis in which case indeed it cannot serve as Drink but as a medicine moderately astringent tho' perhaps the Asthma contraindictes it a little for the contrary the soft oily Linctus are contraindicted by the Decoction. [N.B. he had on some occasions a great swelling & pain in one of his eyes in the afternoon]

Potion prescribed to deal with a chinking cough, night sweating and frequent asthmatick fits.

Continuation of Mr. Hutchison's case. Dr. Clerk & Innes judged his case to be nervous order'd first this Electuary. 2*Rad. Valerian sylvestris.* 3*ff. Aethiopis Minerals.* 3*ij. Gum. Guaiac.* 3*ff. Castorei 3*ff. exm. q.s. Syrup. Balsam.** f. *Electuarium capiat mollem nucis moschata ter de dis.* 2*Balsam. Guidonis 3*ij.** sign. *The Ointment to be rubb'd on the part affected att night & in the morning applying a flannel above it.* 2*Rad. Raph. Rusticum recent.* 3*ff. serpentaria. Virgin.* Bacc. Juniperi Cort. Winteri 3*ff. Sem. Sinap. integr. 3*ff. Summit Betonei incis et contus 3*ss.***

Prescriptions for an electuary and a balsam for a patient whose case was "judged to be nervous"

to be taken in gills (i.e. five ounces) till it should work. He took $\frac{1}{2}$ of the bottle and it purged him 5 times in the afternoon—Next day I order'd for him a Hydromel (i.e. a mixture of honey and water) a linctus & 2 lbs. of the Pectoral Decoction. Purging continued for 2 or 3 days so boiled milk & then Decoct, Diascorid as Palliatives to his colliquative flux, but what seem'd most useful to him were the Pil. Mathei gr. xii at night. . . . I gave him also a small strengthening infusion of the bitters with Cort Peruvian 3*ii* infused among 3*vi* of Aq laetis Alexitir."

Next day a Dr. Cochran came out to see him:

"He proposed vomiting to stop his looseness (also) 3*iiij* of Gum Arabic to a pound of his Decoct. Alb. sometimes to make that decoction up with Aq. Calcis in which case indeed it cannot serve as common drink but as a medicine moderately astringent, tho' perhaps the Asthma contraindicated it a little & on the contrary the soft oily linctuses are contraindicated in the Diarrhoea.

Feby. 10, Sunday.

He gott a vomit of ipecacuanha gr. 50 or 2*iiii* ss. infused among 3*iiij* of water [boiling overnight—it was ordered so, but Mr. Brown only infused it by the fire]. It did not work well being too weak."

The aforementioned Mr. Keir, the Baxter, apparently looked after the lad with care, for we are told that

"he got some little of a roasted fowl to dinner, contrary to our desire."

The next stage was something to relieve his breathing.

"Gum Ammoniacum 3*ij* among Aq. Puleg. flor Chamomil Cinnam. S.V. aa 3*ij* with Syr. Balsam 3*i.*
Oxymel Scillit. 3*ss* and Pilulo Mathei att bedtime."

(Aq. Cinnam. S.V. was distilled from cinnamon bark with water only, S.V. being sine vino, i.e. without spirit, the pharmacopœia of the day giving both a spirit and non-spirit water.)

Strange to relate, the young man, after further vomiting, was able to go riding with the help of an assistant, and is stated to have recovered, which argues well for what appeared to be a "thin tender constitution."

The following interesting bolus was prescribed for Hypochondriacal Mania:

R Gum Galban 3*ii.*
Afs. foetid.
Castor Rufsie aa 3*ii.*
Sapon Venet 3*i ss.*
Aloes Succotrin 3*ss.*
Ext. Hellibor. nig. q.s.

Russian castoreum from the inguinal glands of the beaver had a high reputation in such conditions. Further detail of nervous disorder appears in the case of a Mr. Hutchison, who was attended by Drs. Clerk and Innes. John Clerk was a few years later to become President of the Royal College of Physicians of Edinburgh, and had been largely responsible for the current issue of the Edinburgh Pharmacopœia.

Aug. 24th I
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Innes was professor of chemistry and materia medica in the University of Edinburgh, so Mr. Hutchison did not lack the foremost skill of the period. The consultants "judg'd his case to be nervous, ordered first this Electuary:

R Rad. Valerian Sylvester 3*ss.*
Actiopius Minerals 3*ii.*
Gum Guaiac. 3*i ss.*
Castorei 3*fo.*
Syrup Balsam q.s. f. Electuarium Capiat mollem nucis moschata ter de dis (a piece the size of a nutmeg).

R Balsam Guidonis 3*ii.*
Sig. The Ointment, to be rubb'd on the part affected att night & in the morning, applying a flannel about it.

Balsam Guidonis or Anodyne Balsam was a remarkable distillation of hepatic aloes, ammoniacum, bdellium, caranna, castor, galbanum, myrrh, balsam of Peru, labdanum, olibanum, amber, tacamahac, storax and Venice turpentine.

R Rad. Raph. Rusticum recent 3*i* (horseradish)
Serpentaria. Virgin.
Bacc. Juniper. aa 3*i.*
Cort. Winteri 3*vi.*
Sem. Sinap. Integr. 3*i.*
Summit Betonei incis et contus 3*ii.*

Infund per triduum in Vin. alb gallic lbs. iv f. Colatura, Hujus capiat 3*ii* post singular doses eletuari. They ordered besides riding once a day, abstinence from common ale unless it were well brew'd beer, flesh suppers &c., cheese, salt meats & fish, also to abstain from claret."

Mr. Hutchison could look forward to a spartan existence. A Mr. Anstruther, suffering from "an obstinate headache with vomiting, foul teeth, an ill breath & other signs of indigestion" was given "6 drams of the Emetick Wine which wrought well in the morning. Afterwards a bolus of 8 grains of Valerian with castor gr. iv and Sal. Succini gr. iii in some syrup." The apothecary records without comment that he complained of the taste of the bolus! Eighteenth-century elegance had certain limitations.

In July of 1733 it fell to the lot of a Mrs. Lesly to suffer from a severe attack of toothache, and Mrs. Lesly, in her distracted state, was prepared to try anything which might bring relief, and to consult all and sundry.

July 3rd, 1733

"Mrs. Lesly took the toothack in one side of the head where the whole teeth of that part of the jaw were affected. She had used a blister for it behind the ear & another applied to the wrist of the Ranunculus Aquaticus without success before I saw her. I saw her next day, I bled her in the arm of the opposite side & drew about 12 ounces of blood yet the pain did not remitt, upon which she caused apply 2 leeches to her shoulder that also drew a good deal of blood, but without success, neither did she find any relief by the oil of Cloves with cotton apply'd to the tooth affected & likewise dropt into the ear. What she found any small relief by was the blowing of tobacco which otherwise made her very sick. She had that night a small bag of linnen apply'd by a gardener with some root as he pretended (i.e. professed) with also some alum &

July 3^d Mrs. Lesly took her tooth'd in one side of the head where the whole part of that part of the face & ear affected the ear without success before I informed of her in her apartment. A. C. 4d, on about 12 ounces of blood yet the pain did not remit upon such as caused application 2 Leeches to her shoulder that also drew a good deal of blood out without success neither did she find any ease of the oil of Sassafras applied to the tooth affected & likewise Droucht into the ear what he found any small relief by was Boring of tobacco which otherwise made her sick. She had that night a small bag of Liniment applied by a Chamberlain root as recommended with also some alum & pepper or ginger & all the rest avail. Also gave her a Ointment in oint with vinegar Rad. Portion. Rest further in Mervin's Earthly use it for the sharpness of the vinegar. She got also next day a new dose of Sambuci Jalappa made into a potion with aq. fl. Sambuci & Syr. de Rhamno which purged excessively & also vomited her very often. Yet occasion'd no faintness she purged above 18 times notwithstanding she felt little ease all day tho' she frequently also used Hungary water to the outside of her head. At night she used the juice of Rad. Apparagi excepted & apply'd with cotton to the teeth. She felt once a little ease with Doctor her blisters behind the ear. She purgative occasion'd an excessive draught which vanish'd in the morning this occasion'd some rest but frequently interrupted with the pains & a great drowsiness & sleepiness even in the morning with a flushing of the face for which reason I shall always think this medicine at least in larger doses very improper for the toothach'd because it seems to derive the humor into the head. She frequently used a bag of warm salt apply'd something like a capitation to the side of the head with some bleeding V. 3 but this never sometimes draw an intolerable load of humor to the part. Some use bleeding the jowls with Leeches in the mouth & with Sanguifer. I call'd on July 5th for another Empirick who had a particular secret for the toothach'd which he apply'd into the ear with the yolk of an Egg. & this was repeated twice. About 5 in the afternoon the pain in the tooth turn'd easier & about midnight she spit up a good deal of matter in the throat & continues easier since only still remained a pain in the neck where the abscess was she would rather been willing to take a vomit in a tincture of Myrrh diluted with vinegar & water. sometimes also sweetmeats perfectly recover'd. afterwards she had a gritting for some days of a nausea.

Observations upon a lady prepared, in her distracted state, to try anything for toothache.

pepper or ginger, but all this did not avail. . . . She got also next day a purgative of Pulvis Jalappae made into a potion with aq. fl. Sambuci & Syr. de Rhamno which purged excessively & also vomited her very often—perhaps she was with child—yet occasion'd no faintness. She purged above 18 times notwithstanding she felt little ease all day tho' she frequently also used Hungary water to the outside of her head. . . . She took at night xx gutts of liquid laudanum in cinnamon water. This occasion'd some rest but frequently interrupted with the pains & a great drowsiness & sleepiness even in the morning with a flushing of the face, for which reason I shall always think this medicine at least in larger doses, very improper for the toothach'd."

Again we find the effects of opium causing concern and thoughtlessness in the apothecary. Let us follow Mrs. Lesly further:

"She call'd on 5th July for another Empirick" (i.e. a "quack") "who had a particular secret for the toothach'd which he apply'd into her ear with the yolk of an egg & this was repeated twice. About 5 in the afternoon the pain in the tooth turn'd easier & at midnight she spat up a good deal of matter. . . . I advis'd further ablutions with Tincture of Myrrh diluted with vinegar & water. In a short time she perfectly recover'd."

It was to be nearly 200 years before any control was imposed on the sale and use of opium, but our observant

apothecary was never completely happy in its use, as may be seen from another case that he recorded:

"Whether or no in this case did these tumours proceed from an obstruction of the Lochia? Might not the opium in the mixture which Sydenham assures us ought not to be try'd above once, encourage this obstruction? Did not excessive pain att the first appearance of the purple swelling in her arm portend a gangrene? And yet is it true what Boerhaeve alledges that a vehement circulation portends a gangrene, since in this woman her pulse was weak & irregular so that I did not venture bleeding?" Severe and searching self-questioning there! Hypochondria keeps appearing from time to time, and an interesting prescription follows:—

"Case of an Hypochondriac.

R Rad. Valerian Sylv. 3 ss.
Cinnabar Antimon. 3 iii.
Rad. Contrayerv.
Serpentaria Virgin aa 3 i.
Mellis opt. 3 i ss.

One who catered for the lighter moments of the local populace was a Mr. Lewis, Dancing Master in Dalkeith.

Mr. Lewis "having been several times troubled with Hysterick and Hypoch. disorders, at length took a strange palpitation of the Heart almost like unto an Aneurism, which notwithstanding disappear'd of itself & returned several times for half the year without much of any remedy. Now he seems to be perfectly free of it, having abstain'd carefully from drinking of

spirits to which he was formerly much addicted."

The diagnosis and treatment seems to have been correct, though while reading the case I wondered if Mr. Lewis, in his flirtation with the terpsichorean art, had fallen a victim to the charms of some of his pupils.

Another famous physician, Andrew Sinclair or St. Clair, is mentioned in several entries. He was another of the founders of the Edinburgh School of Medicine, and taught physiology, then known as the "Institutes of Medicine." He was the family physician of the Elliots of Minto, who had a town house in old Edinburgh and an estate in the country. An entry says:—

"In the meantime Gibby Elliot, My Lord Minto's son, who was lately come out of town & had been long detain'd there for the Chin-cough" (i.e. whooping cough) "having still a dry cough troubling him especially in the night time, had order'd him by Dr. Sinclair first the following quieting mixture.

R Aq. Stillat. Foenical 3 iii.
— Cinnam. S.V. 3 i fo. ss.
Tinctur. Opii Sydenham gutt L.
Syrup Diacon. 3 i fo. ss.

Sign. The Quieting Mixture, of which two spoonfuls to be taken every night at bedtime.

Also these pectoral pills.
R Gumm. Ammoniac.
Sapon Venet.

Pulp. Rad. Scill. aa 3 i.
Milliped. ppt. 3 ss.
Bals. Peruvian q.s.
f. pilulac No. 48.

Sign. The pectoral pills to be taken twice a day, viz. an hour before breakfast & about 6 or 7 o'clock in the afternoon."

" March 30th, 1735

Gibby Elliot's cough returned with an obstruction of the belly, Dr. Sinclair order'd for him this bolus:

R. Rhei. Elect. gr. xxv.
Aquil. alb. gr. iv.
Syr. Rosar solutio q.s. f. bolus Cap. cras mane."

Since Aquila Alb. was Calomel, Dr. Sinclair was taking the necessary steps to remove any obstruction.

But throughout the whole chronicle is the tragic story of smallpox. One such case, that of a Mr. Stewart, runs through pages of the book. He was attended by Dr. Stevenson, the son of one of the founders of the Edinburgh College of Physicians, and by Dr. John Pringle, who later, as Sir John Pringle, devoted a long career to military medicine and whose tombstone is to be seen in Westminster Abbey. Mr. Stewart, a young man of noble family, suffered both the tortures of his disease and the discomfort of his treatment. On the eighteenth day of the disease the following entry appears.

"Dr. Stevenson says he has allways found the fig-ptisan answers the purpose of maturation" (maturation was suppuration or coming to a head) "better than anything else. The Dr. order'd for him just now a cordial julip this forenoon of Aq. Melifs. Cerasos Nigra aa 3ij; Peonia Comp. 3i; Confect. Kermes 3j; Syr. Limonis 3j. The acid of the syrup was added to the cordials for correcting the bad effects of the opiates which seem by a particular idiosyncrasie to have influenced and disorder'd his nerves too much & to have brought on a Delirium, therefore we resolve for the future to be more temperate in the use of them, att least in the daytime...."

19th Day. He was order'd by Dr. Stevenson to be offered now & then a little thin water berry in a teacup (i.e. a thin gruel) wherein was mixed two teaspoonfuls of sherry.

23rd Day. Dr. Stevenson blamed me for not giving him the Rhubarb, accordingly he gave it to him immediately. If he purged none before 8 o'clock att night, to give him then 15 grains more of Rhubarb & ordered for him a bitter stomachick infusion

R. Rad. Gentian 3 i.
Zedoar. 3 ss.
Flor. Chamomil pugil.
pulv. Subtilis Cort. Peruvian 3 ii.
infundantus S.A. in Aq. Card. Benedict.

whereof a spoonful to be given him next morning, straining it off only at the time of use.

24th Day. Dr. Pringle thought he might be try'd with a little chicken broth.

25th Day. Yet at this time he seem'd to know My Lord Garlis his father's voice. For form's sake had his ankles drest & a cordial of Confect. Alkann. 3j. Sal. C.C. gr. X Camphor gr. ii mixed with his julip.... He dy'd pretty easily."

There had been bleedings and purgings, vomiting and blisters, throughout the course of the disease, and there was acute disagreement at the time as to the correct procedure, as will be seen in this entry:

"There was a difference of opinion about this time among physicians about preparation by purging with Rhubarb & merc. dulcis" (i.e. calomel) "Vomiting & Bleeding, against the Sm. Pox. This was advis'd by Dr. Stevenson as his ordinary practice even with his own children, but strenuously oppos'd by Dr. Sinclair, who only advised instead of other preparations, a light diett, abstinence from flesh, because he alledg'd he had seen some thus prepared by purging who had afterward appear'd to be seiz'd with the sm. pox at the same time, and had prov'd of very dangerous & fatal consequences. However, by the advice of Dr. Cochran, I gave my Lord Dalziel 16 grains of Rhubarb, 8 grains of Jalapp & 3 grains of Mercury, this swallow'd in a wafer...."

That the psychological possibility of pain was not overlooked is clearly revealed in an entry concerning the Earl of Dalhousie.

"Febr. 15, 1735

I was call'd to the Earl of Dalhousie. He was troubled with a pain in his back ever since his lady's illness, whether from

a strain he gott at that time or a fright, I know not. He had been rubbing it with his stuff which had probably irritated it & the night before he had been pretty late out att a merry meeting where they were drinking a great quantity of heavy strong ale."

The apothecary records cases communicated by other doctors at various times, and writes of one such from Dr. Ogilvy, in which he is told of an English lady in an ague who had "got hastily a great many doses of the Bark" (i.e. cinchona) "in substance by the advice of one Dr. Dover, so that she took in all above a pound of it." She was advised by Dr. Mead (Richard Mead 1673-1754, who studied under Pitcairne at Leyden) and Dr. Friend (John Friend 1675-1728, who was imprisoned in the Tower for supporting the Jacobite cause, and took the opportunity of his enforced idleness to write a *History of Physiek*) to try the air of Naples or Montpellier, but got no further than Paris, where the said Dr. Ogilvy attended her in her last illness. To meet an anecdote of such famous personages as Mead, Friend and Dover is reward indeed for some laborious reading. Mead was one of the owners of a famous gold-headed cane which passed from one exalted hand to another, finally being deposited in the building of the Royal College of Physicians in London. The elegance of the period was shared by the doctors, and it has been recorded of the doctors in Dundee of that time that they "wore large muffs, dangled gold-headed canes, hemm'd loud, and looked wise; and according to the strength or weakness of the natural constitution, the patient survived or expired."

Part of that may have been true, but there is sufficient evidence in the diary under examination to indicate that there was courage, care, doubt and thought. The period was one in which life was chancy, and there is strong evidence of the dictum that desperate diseases required desperate remedies. They got them with full measure, and sometimes the patient survived. But it must have shocked orthodoxy to learn that "att Newton there dy'd fourteen only out of a great number, whereof none almost had any kind of physick or bleeding."

¹Manuscript in the National Library of Scotland, to the staff of which the author offers his acknowledgements.

ECHOES OF THE PAST PURGING MEDICINES

From "Sylva Sylvarum," by Francis Bacon, Lord Verulam, Viscount St. Albans, 10th edition, London, 1676.

THE operation of Purging Medicines, and the Causes thereof, have been thought to be a great Secret; and so according to the slothful manner of men, it is referred to a Hidden Propriety, a Specifical Virtue, and a Fourth Quality, and the like shifts of Ignorance. The Causes of Purgings are divers, All plain and perspicuous, and thoroughly maintained by experience. The first is, That whatsoever cannot be overcome and digested by the Stomack, is by the Stomack, either put up by Vomit, or put down to the Guts; and by that Motion of Expulsion in the Stomack and Guts, other Parts of the Body (as the Orifices of the Veins, and the like) are moved to expel by Consent: For nothing is more frequent than Motion of Consent in the Body of Man. This Surcharge of the Stomack, is caused either by the Quality of the Medicine, or by the Quantity. The Qualities are three, Extream bitter, as in Aloes, Colquintida, &c. Loathsome, and of horrible taste, as in Agariek, Black Hellebore, &c. And of secret Malignity, and disagreement towards Mans Body, many times not appearing much in the taste, as Seauimony, Meehoachan, Antimony, &c. And note well, that if there by any Medicine that Purgeth, and hath neither, of the first two Manifest Qualities, it is to be held suspected as a kind of Poysen; For that it worketh either by Corrosion or by a secret Malignity, and Enmity to Nature; and therefore such Medicines are warily to be prepared and used. The quantity of that which is taken, doth also cause Purgings, as we see in a great quantity, of New Milk from the Cow; yea, and a great quantity of Meat: For Surfeits many times turn to Purges, both upwards and downwards. Therefore we see generally, that the working of Purging Medicines cometh two or three hours after the Medicines taken.



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TELEGRAMS: "CHEMICUS ESTRAND, LONDON"

"Eschew or Validate"

To pharmacists, as to all engaged in the pharmaceutical industry, it was not unexpected that the Hinchliffe Committee (see p. 678) should find little evidence of serious irresponsibility on the part of doctors when prescribing under the National Health Service. They may nevertheless be a little cynical about some of the statements which the Committee has made, and more than a little surprised at some of its recommendations. The report can hardly have had the endorsement of the pharmaceutical department of the Ministry of Health.

Generally there is a lack of precision in it that must be astonishing when the composition of the committee is considered, much of the report being based on vague assumptions. Although it is only an interim report, the committee has been meeting for nearly a year. Yet it has not presented any statistical information whatsoever—a surprising omission when the Committee was required by its terms of reference from the Minister to "investigate the factors contributing to the increase in the cost of the prescriptions issued under the National Health Service."

The report is concerned solely with doctors' prescribing problems. It does not take into account the pharmaceutical industry's problems of production and research, which must inevitably come into any system of costing on whatever basis. The tendency, of which the Hinchliffe report is only one manifestation, to deal with National Health Service finance by considering specialised details and disregarding the whole picture is greatly to be deplored. Such treatment cannot do otherwise than give rise to an unbalanced conclusion. For example, throughout the report there appears to be an impression that to issue a product under an approved name inevitably reduces the price. Yet there are proprietary products within the Pharmacopœia and their price is in no way under the control of the pharmacopœial authorities.

The narrow outlook of the Committee has of course—and as usual—failed to take into consideration the considerable export business carried on by the British pharmaceutical industry which would be impeded if not prevented were the Committee's recommendation to be carried out. The Committee also entirely overlooks the fact that many proprietaries have no standard equivalent.

Pharmacists will be delighted with the recommended full pricing of prescriptions even though the purpose is to improve the effectiveness of the data circulated to doctors about their prescribing costs.

The Association of British Pharmaceutical Industry

has anticipated, by voluntary agreement amongst its members, the recommendation that prices should be included in all literature circulated to doctors, and there is no need for any amendment to the law on that score.

Any suggestion that there is need for a comprehensive book—on whatever subject—always seems to arouse enthusiasm, but those who have had to keep price lists up to date wonder how, in view of the statement that "doctors with large numbers of patients on their lists find it difficult to devote time . . . to the examination of costs of alternative prescriptions . . ." they will be able to rely on having at hand a comprehensive list that is up to date.

It will be interesting to see how the British Pharmaceutical Commission reacts to the suggestion that there should be a review of the principles on which the selection of approved names is at present based. The Nomenclature Committee has, for a number of years, been building up a set of precedents and criteria so that an ordered routine was being set up in collaboration with the committees of the World Health Organisation and those responsible for the International Pharmacopœia. That arrangement ensured that the choice of names was made on a uniform scientific basis, and it avoided, so far as possible, differing names for the same compound in different countries. Thus the limitations which the Commission accepts are not applicable to the manufacturers, who have thus often been able to coin trade names that are simpler than the approved titles. It will be a retrograde step if the Commission should decide to revise their routine and overthrow international aspects of their work.

The plain fact is that the Committee's conclusions are based on insufficient evidence and are therefore to be rated no higher than opinions, such as any member of the community is at liberty to express. What is wanted is some statistical information on the problem whether the increase in cost of the National Health Service has or has not been offset by savings resulting from reduced sickness, with an additional advantage in higher industrial output. As *The Times* says in its leading article (June 23), "it does not follow that the more economical [prescribers] are necessarily the more efficient. The whole problem requires much more factual knowledge before effective means of securing economy in prescribing can be devised." And the whole of the pharmaceutical profession and trade will echo its final words: "It is to be hoped that in their final report the Committee will eschew—or validate—the apparent superficiality of some of their interim *obiter dicta*."

On Parade

The latest addition to the now long series of *C. & D.* Annual Special Issues provides a mixture—not too unbalanced, we hope—of history, practical service and entertainment to its readers. Of greatest immediate value to most will be the supplement to the notably successful Tablet Identification Guide first published in 1956 and shortly to be available, with the supplement, in a complete new set of cards. For those concerned with exports the survey of certain European markets is of pressing importance. History ranges from bell-metal mortars to feeding bottles, and from an 18th century apothecary's notes to "personal heaters." Entertainment? We hope it is not lacking on any page.

TABLET IDENTIFICATION 1958

Supplement to the C. & D. Tablet and Capsule Identification Guide, 1956

WHEN the C. & D., in its Annual Special Issue, 1956, published a chart, in diagram and colour, drawing attention to distinguishing characters of a large variety of tablets then on the market, the innovation was experimental in two ways. It was, on the technical level, an act of confidence that most coloured tablets could be represented by the process used (the four-colour process) so as to enable the chart to be of real and substantial value to pharmacists and others faced, perhaps, with an urgent problem of identification. It was experimental, too, in its estimate how urgent the problem was and how great the need or demand for such a chart would prove to be.

On both scores the experiment met with a remarkable measure of success. It can never be, and is not, claimed that each illustration is a precise matching of the actual tablet in colour. Nothing short of individual selective treatment in more colour printings than would be commercially practicable could secure that perfection of result. What is claimed is that the majority are for practical purposes close and that, even for the minority (and one or two seem to have hit "blind spots" in the colour camera), the rendering, notwithstanding its shortcomings, serves to put the user of the chart on the right track in his search for the correct answer. A warning is therefore given that the charts must be used with care and discretion. As for the extent of the need it is sufficient to say that the chart, reprinted as sets of cards, has long been out of print, with a long waiting list for the new edition. The demand came, too, from a much wider field than was foreseen. There was expected, and experienced, a voluminous demand from C. & D. subscribers. Through their recommendation or by some other means the chart became known to (a) medical practitioners and (b) police departments, to neither of which was it ever advertised by its publishers.

The original colour charts are about to be reissued. Even though they may include tablets no longer supplied by

the manufacturers, or changed in form or colour, it was thought that to delete them might fail to take into account tablets still in a pharmacy, a hospital or a home medicine chest and therefore still capable of giving rise to a query or an emergency. The original colour charts are therefore reappearing unchanged, plus the new ones printed in these pages, in an enlarged set of cards, eyeletted and corded as before, and given a washable laminated surface that will both improve their initial appearance and lengthen their useful life. The diagrammatic representations of the markings of white tablets issued in the former guide have been brought up to date, the new page rendering the original page obsolete. The set, comprising four charts in colour, one chart in black and white, a numbered reference to the title or formula of each tablet and a key to manufacturers, will be available at 12s. 6d. post free. It was thought that a few potential users might consider a stitched booklet to be better adapted to their requirements. For them a limited number of brochures at 7s. 6d. per copy is being made available.

The scope of the charts extends to tablets and capsules identifiable by colour, shape, trade mark or markings other than a specific indication on the tablet of what it is (since if a tablet is labelled, say, "Peascodal gr. 5" it never presents a problem of identification). The mark, however, in order to be included, must be individual to the tablet. If it is common to, say, all the tablets of a particular manufacturer it can provide little more evidence of identity than if the tablet were white and without markings, and is omitted for the same reason.

The problem of identifying tablets assumes its most serious aspect when the question of poisoning arises. Where the only clue is colour, identification can be but guesswork, but it is surely better in a matter of life or death that the pharmacist should be able to say "Well, it might be this" or "It might be that," rather than "I haven't a clue." And

KEY TO ILLUSTRATION OF MARKINGS OF WHITE TABLETS

(Diameter of tablet in brackets)

1A Tridione, 0·15-gm. Dulcet tablets ($\frac{1}{2}$ in.)

ABB.

B Adalin (9 mm.) BAYER.

C Alamag (obverse and reverse faces of an earlier marking now obsolescent ($\frac{1}{2}$ in.) BAYER.

D Alamag (obverse and reverse, present marking) ($\frac{1}{2}$ in.) BAYER.

E Ascon ($\frac{1}{2}$ in.) ALLIED.

F Takazyma lozenges ($\frac{1}{2} \times \frac{3}{8}$ in.) PD.

G Sulphadimidine, 0·5-gm. ($\frac{1}{2}$ in.) (reverse scored) MB.

H Butolan (13 mm.) BAYER.

I Codalgin (obverse and reverse) (13 mm.) BAYER.

J Diesed ($\frac{3}{8}$ in.) BAYER.

K Dolantal ($\frac{5}{16}$ in.) BAYER.

L Elityran ($\frac{5}{16}$ in.) and Evidorm ($\frac{7}{16}$ in.) (reverses halved) BAYER.

2A Rybrol ($\frac{3}{8}$ in.) RYBAR.

B Evipan (13 mm.) BAYER.

C Franol ($\frac{3}{8}$ in.) BAYER.

D Isupren ($\frac{1}{2}$ in.) (reverse halved) BAYER.

E Sinthrome, 4-mgm. ($\frac{3}{8}$ in.) (reverse quartered) GEIGY.

F Luminal, gr. $\frac{1}{4}$, $\frac{1}{2}$, and 1 (6 mm.); gr. $\frac{3}{4}$ and $1\frac{1}{2}$ (7 mm.); gr. 2 (9 mm.) BAYER.

G Luminal sodium, gr. $\frac{1}{2}$ (4 mm.); gr. $\frac{1}{2}$ (6 mm.); gr. 1 (7 mm.); gr. $1\frac{1}{2}$

(9 mm.) BAYER.

H Myocardol ($\frac{5}{16}$ in.) (reverse halved) BAYER.

I Theominal ($\frac{3}{8}$ in.) BAYER.

J Novalgin ($\frac{7}{16}$ in.) BAYER.

K Phanodorm ($\frac{3}{8}$ in.) BAYER.

L Promenal, gr. $\frac{1}{2}$ ($\frac{1}{4}$ in.); gr. 1 (reverse halved) ($\frac{5}{16}$ in.); gr. 3 (reverse halved) ($\frac{3}{8}$ in.) BAYER.

3A Protheonal ($\frac{1}{2}$ in.) BAYER.

B Cardophyllin ($\frac{3}{8}$ in.) BINGER.

C Colemid (reverse marked CIBA) ($\frac{3}{8}$ in.) CIBA.

D Ritalin (reverse marked CIBA) ($\frac{3}{8}$ in.)

E Distaqueine-V, 60-mgm. ($\frac{3}{8}$ in.) DC(B)L.

F Avloclor ($\frac{3}{8}$ in.) ICI.

G Avlosulfon ($\frac{3}{8}$ in.) ICI.

H Cronetal ($\frac{1}{2}$ in.) ICI.

I Mysoline ($\frac{3}{8}$ in.) ICI.

J Paludrine, 0·1-gm. ($\frac{5}{16}$ in.); 0·3-gm., quartered ($\frac{7}{16}$ in.) ICI.

K Penicillin lozenge, 1,000 u. ($\frac{3}{8}$ in.) ICI.

L Penicillin lozenge, 5,000 u. ($\frac{3}{8}$ in.) ICI.

4A Sulmezil ($\frac{1}{2}$ in.) ICI.

B Sulphaguanidine, 0·5-gm. ($\frac{3}{8}$ in.) ICI.

C Sulphamezathine, 0·5-gm. ($\frac{3}{8}$ in.) ICI.

D Sulphamezathine lozenge, 0·25-gm. ($\frac{3}{8} \times \frac{1}{16}$ in.) ICI.

E Sulphanilamide, 0·5-gm. ($\frac{7}{16}$ in.) ICI.

F Sulphamezathine and penicillin ($\frac{1}{2}$ in.) ICI.

G Vazadrine, 50-mgm. ($\frac{3}{16}$ in.) ICI.

H Equanil, 400-mgm. (obverse) ($\frac{7}{16}$ in.) WYETH.

I Equanil, 400-mgm. (reverse) ($\frac{7}{16}$ in.) WYETH.

J Reazide, 50-mgm. ($\frac{3}{8}$ in.) (reverse halved); 100-mgm. ($\frac{3}{8}$ in.) (reverse marked '100') MAW.

K Preludin ($\frac{3}{8}$ in.) (reverse halved) PFIZER.

L Antoin ($\frac{1}{2}$ in.) (reverse halved) ALLIED.

5A AnsolySEN, 40-mgm. ($\frac{1}{4}$ in.) (reverse scored); 200 mgm. ($\frac{7}{16}$ in.) (reverse quartered) MB.

B Sulphapyridine (MB 693) 0·5-gm. ($\frac{1}{2}$ in.) (reverse scored) MB.

C Sulphanilamide, 0·5-gm. ($\frac{1}{2}$ in.) (reverse scored) MB.

D Carbachol, 2-mgm. ($\frac{3}{16}$ in.) MB.

E Gardenal, gr. $\frac{1}{4}$ ($\frac{3}{8}$ in.); gr. $\frac{1}{2}$ and 1 ($\frac{3}{8}$ in.); gr. $1\frac{1}{2}$ ($\frac{1}{2}$ in.); gr. 2 ($\frac{3}{8}$ in.) MB.

F Gardenal sodium, gr. $\frac{1}{4}$ ($\frac{3}{8}$ in.); gr. $\frac{1}{2}$ ($\frac{3}{16}$ in.); gr. 1 ($\frac{3}{8}$ in.); gr. $1\frac{1}{2}$ ($\frac{1}{2}$ in.) MB.

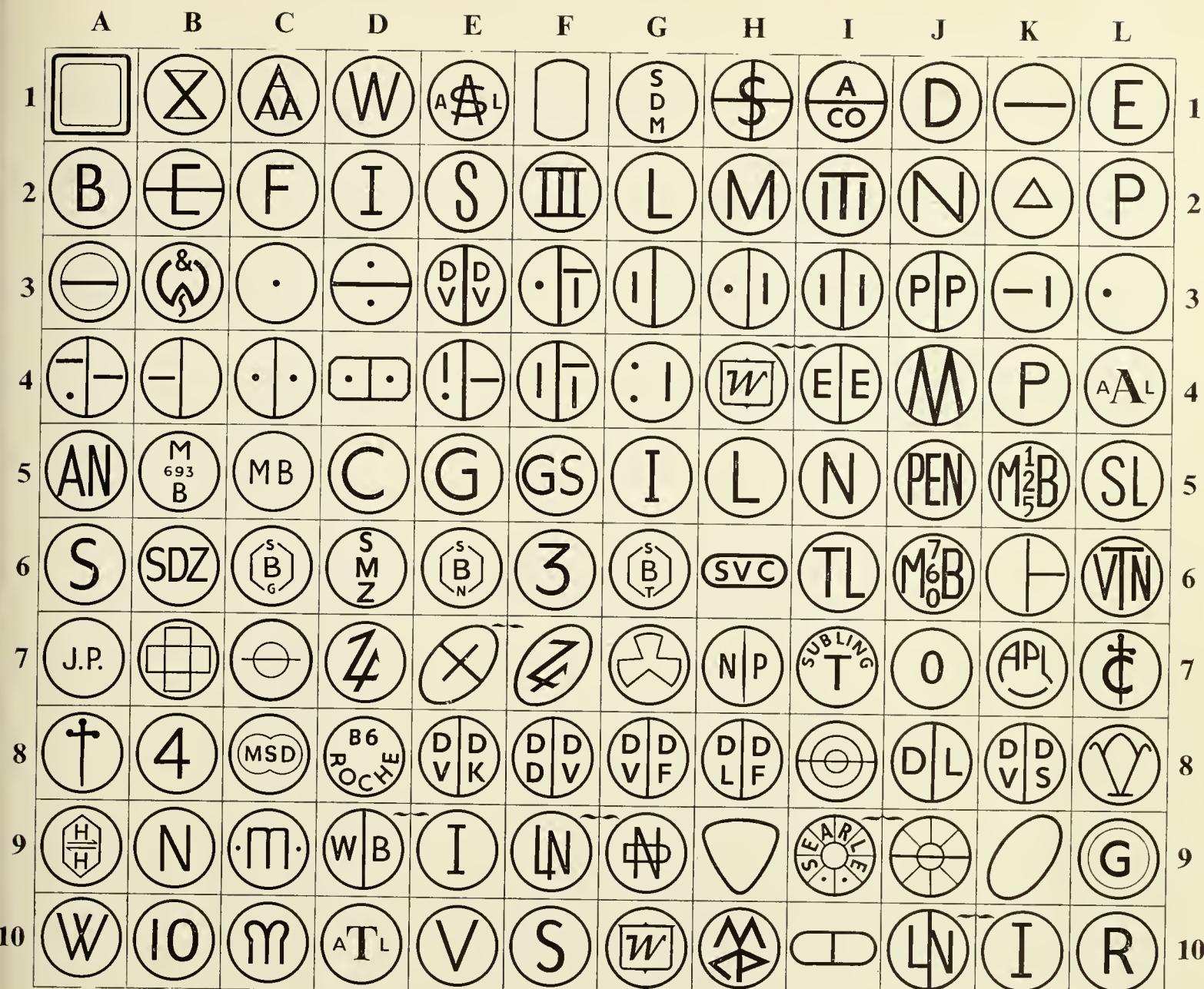
G Isoniazid, 50-mgm. ($\frac{1}{2}$ in.); 100 mgm. ($\frac{3}{8}$ in.) MB.

H Leucarsone ($\frac{3}{8}$ in.) MB.

I Neptal ($\frac{3}{8}$ in.) MB.

J Penicillin lozenge 100 i.u. ($\frac{1}{2}$ in.) MB.

K Proseptasine ($\frac{1}{2}$ in.) (reversed scored) MB.



A B C D E F G H I J K L

L Stemetil, 5-mgm. ($\frac{1}{4}$ in.) MB.
 6A Stovarsol, gr. $\frac{1}{2}$ ($\frac{3}{16}$ in.); gr. 4 (lettered Stovarsol) ($\frac{1}{2}$ in.) MB.
 B Sulphadiazine ($\frac{1}{2}$ in.) (reverse scored) MB.
 C Sulphaguanidine, 0·5-gm. ($\frac{1}{2}$ in.) (reverse scored) BOOTS.
 D Sulphamerazine ($\frac{1}{2}$ in.) (reverse scored) MB.
 E Sulphanilamide, 0·5-gm. ($\frac{1}{2}$ in.) (reverse halved) BOOTS.
 F Sulphatriad ($\frac{1}{2}$ in.) (reverse scored) MB.
 G Sulphathiazole, 0·5-gm. ($\frac{1}{2}$ in.) (reverse scored) BOOTS.
 H S.V.C. ($\frac{1}{16} \times \frac{3}{32}$ in.) MB.
 I Theogardenal ($\frac{1}{2}$ in.) MB.
 J Thiazamide ($\frac{1}{2}$ in.) (reverse scored) MB.
 K Trinuride ($\frac{1}{2}$ in.) BENGUE.
 L Vegolysen T ($\frac{1}{16}$ in.) (reverse scored) MB.
 7A Junior Paynocil (reverse halved) (10 mm.) BENCARD.
 B Benemid ($\frac{1}{2}$ in.) (reverse halved) MERCKSD.
 C Phalcin ($\frac{1}{2}$ in.) HARRIS.
 D Cortisone acetate ($\frac{5}{16}$ in.) MERCKSD.
 E Hydrocortone, 10-mgm. (reverse) ($\frac{1}{2} \times \frac{3}{32}$ in.) MERCKSD.
 F Hydrocortone, 10-mgm. (obverse); 20-mgm. (reverse halved) ($\frac{1}{2} \times \frac{3}{32}$ in.) MERCKSD.
 G Penbenemid ($\frac{1}{2}$ in.) (reverse halved) MERCKSD.
 H Neutraphylline with phenobarb ($\frac{1}{2}$ in.) CONT.
 I Testosterone, 10-mgm. ($\frac{5}{16}$ in.) ORG.
 J Cortril, 10-mgm. ($\frac{1}{2}$ in.); 20-mgm. ($\frac{1}{2}$ in.) (reverses halved) PFIZER.
 K Barbural ($\frac{7}{16}$ in.) HEW.
 L Codis ($\frac{1}{2}$ in.) REC.
 8A Solprin ($\frac{1}{2}$ in.) REC.
 B Fortronal ($\frac{1}{2}$ in.) (reverse halved) RICHTER.
 C Saluric ($\frac{7}{16}$ in.) (reverse halved) MERCK SD.
 D Benadon, 20-mgm. (7 mm.); 50-mgm. (halved) ROCHE.
 E Dist aquaine V-K, 125-mgm. ($\frac{3}{8}$ in.) DC(B)L.
 F Dist aquaine V, 125-mgm. ($\frac{3}{8}$ in.) DC(B)L.
 G Dist aquaine V, 250-mgm. ($\frac{3}{8}$ in.) DC(B)L.
 H Distaval forte, 100-mgm. ($\frac{5}{16}$ in.) DC(B)L.
 I Dromoran (8 mm.) ROCHE.
 J Distaval, 25-mgm. ($\frac{1}{4}$ in.) DC(B)L.
 K Dist aquaine V sulpha ($\frac{1}{2}$ in.) DC(B)L.
 L Cogentin (reverse quartered) MERCK SD.
 9A Pentasprin ($\frac{1}{2}$ in.) (reverse halved) HH.
 B Primolut N ($\frac{3}{32}$ in.) PHARMETH.

C Marcoumar (8mm.) (reverse quartered, previously halved) ROCHE.
 D Isoniazid, 100-mgm. (obverse) ($\frac{3}{8}$ in.) WB.
 E Isoniazid, 100-mgm. (reverse) WB.
 F Nativelle Digitaline 1/240 gr. ($\frac{3}{16}$ in.) (obverse) WJ.
 G Nativelle Digitaline 1/240 gr. ($\frac{3}{16}$ in.) (reverse) WJ.
 H Plexonal ($\frac{5}{16}$ in. side) SANDOZ.
 I Vallestril, 3-mgm. ($\frac{1}{2}$ in.) SEARLE.
 J Vallestril, 3-mgm. (reverse) SEARLE.
 K Vagisol Suppositabs ($\frac{1}{2} \times \frac{3}{32}$ in.) WANDER.
 L Gelusil ($\frac{3}{8}$ in.) WARNER.
 10A Pacatal ($\frac{1}{2}$ in.) (reverse halved) WARNER.
 B Dindevan, 10-mgm. ($\frac{7}{32}$ in.) EVANS.
 C Tedral ($\frac{5}{16}$ in.) (reverse halved) WARNER.
 D Throsil ($\frac{5}{16}$ in.) ALLIED.
 E Veganin ($\frac{1}{2}$ in.) (reverse halved) WARNER.
 F Praenitrona ($\frac{3}{16}$ in.) PHARMETH.
 G Aludrox ($\frac{7}{16}$ in.) (reverse same) WYETH.
 H Bislumina ($\frac{5}{16}$ in.) (obverse and reverse identical) MCP.
 I Isolevin ($\frac{17}{32} \times \frac{1}{4}$ in.) WYETH.
 J Iodhema (obverse) ($\frac{3}{8}$ in.) WJ.
 K Iodhema (reverse) ($\frac{3}{8}$ in.) WJ.
 L Rutonal, gr. 1 ($\frac{7}{32}$ in.); gr. 3 ($\frac{11}{32}$ in.) MB.

KEY TO TABLETS ILLUSTRATED ON OPPOSITE PAGE

33A Lactobyl CONT.
B Vitepron PB.
C Activated charcoal, gr. $7\frac{1}{2}$ RICH.
D Taxol CONT.
E Ephedrine and Nembutal ABB.
F Wyamin WYETH.
G Vitamin B complex forte (Thiamoplex forte) PB.
H Stilbæstrol, Pabestrol, 0·25-mgm. PB.
I Stilbæstrol, Pabestrol, 0·1-mgm. PB.
J Thiamoplex PB.
K Tensedine BENGUE.
L Robaden ROBA.

34A Toniron MEDO.
B Neo-Ferrum CROOKES.
C Alophen pills PD.
D Taka-Diastase, pepsin and pancreatin PD.
E Epragen Pulvules LILLY.
F Uniplex WED.
G Aminacyl sodium PAS, 0·5-gm. (enteric coated) WANDER.
H Aminacyl, sodium PAS, 0·75-gm. (enteric coated) WANDER.
I Enzypan NORGINE.
J Dibexin PD.
K Cholelith pills PD.
L Panteric No. 503 PD.

35A Panteric compound No. 504 PD.
B Abidon with vitamin C PD.
C Beplex WYETH.
D Taka-Bexin PD.
E Livox NAPP.
F Oestrone, 5,000 i.u. PB.
G Taxol methionine CONT.
H Ammonium chloride, 0·5-gm. MB.
I Rhubarb and soda RICH.
J Mandelamine Hasgrams WARNER.
K Mandelamine WARNER.
L Aminacyl, sodium PAS, 0·4-gm. WANDER.

36A Entrosalyl (vitamin) CONT.
B Fersamal GLAXO.
C Codoforme (Bitol) CONT.
D Gonacrine, gr. $\frac{1}{2}$ MB.
E Aminacyl, calcium PAS, 0·75-gm. WANDER.
F Nystatin, 500,000 units SQUIBB.
G Konakion, 10-mgm. ROCHE.
H Ammon. chlorid. B.P.C., gr. $7\frac{1}{2}$ EVANS.
I Anti-rheumatic RICH.
J Phenolphthalein B.P., gr. 1 RICH.
K Chocovite MEDO.
L Caapi NAPP.

37A Bronchial lozenges, mentholated PD.
B Cellucon MEDO.
C Digifortis PD.
D Vitamin B.I, yeast gr. 5 DC(B)L.
E Dalay INT.

F Rauwiloid RIKER.
G Respenyl CROOKES.
H Femilan ALLIED.
I Dartalan, 10-mgm. SEARLE.
J Serpatonil CIBA.
K Adelphane CIBA.
L Piptal, 5-mgm. BENERG.
38A Albamycin G.U. UPJOHN.
B Pernivit BDH.
C Bilostat WED.
D Frangula compound BOOTS.
E Pentoxylon RIKER.
F Erythromycin, 100-mgm. UPJOHN.
G Erythromycin, 250-mgm. UPJOHN.
H Plaquenil BAYER.
I Ekammon WB.
J Dequadin lozenges AH.
K Reserpine, 1-mgm. RIKER.
L Reserpine, 3-mgm. RIKER.
39A Reserpine, 5-mgm. RIKER.
B Rauwiloid + Veriloid RIKER.
C Lederkyn, 500-mgm. LED.
D Nitensar ARMOUR.
E Theobromin. co. RICH.
F Nystatin vaginal SQUIBB.
G Puri-Nethol, 50-mgm. Tabloid BW.
H Dipasic BENGUE.
I Marsilid, 50-mgm. ROCHE.
J Bellaphene BR, PAR.
K Anti-neuralgic RICH.
L Inversine, 2·5-mgm. MERCK SD.

40A Cordex forte UPJOHN.
B Veriloid, 2-mgm. RIKER.
C Notensil, 10-mgm. BENERG.
D Deltalgycortril PFIZER.
E Equanil, 200-mgm. WYETH.
F Piriton AH.
G Choledyl, 200-mgm. AH.
H Theodrox with phenobarbitone RIKER.
I Rutin with vitamin C PD.
J Furadantin, 50-mgm. DF.
K Nembu-Serpin ABB.
L Colchipirine CONT.

41A Primodos oral PHARMETH.
B Pro-plus ASHE.
C Amphedrex BR, PAR.
D Vagiflav BOOTS.
E Ossopan ROBA.
F Dexamphetamine sulphate, 5-mgm. WB.
G Quinine compound RICH.
H Carovit CONT.
I Trichorad, 100-mgm. WB.
J Bardase PD.
K Irgapyrin, 250-mgm. GEIGY.
L Quinacrine, 100-mgm. MB.

42A Haliverol PD.
B Diparcol, 50-mgm. MB.
C Dexamphetamine sulph., 5-mgm. EVANS.

D Compocillin V, 250-mgm. ABB.
E Folic acid, 5-mgm. PD.
F Benerva compound ROCHE.
G Neo-epinine, 20-mgm. Tabloid BW.
H Reserpine, 0·5-mgm. RIKER.
I Midicel, 0·5-gm. PD.
J Cordex UPJOHN.
K Compocillin V with Sulphas ABB.
L Desibyl, gr. 5 PD.

43A Neodex INT.
B F99 INT.
C Abidec PD.
D Romilar, 15-mgm. ROCHE.
E B complex SQUIBB.
F Dulcolax PFIZER.
G Sparine, 25-mgm. WYETH.
H Premarin, 1·25-mgm. ICI.
I Fydalex BOOTS.
J Romicil, 100-mgm. ROCHE.
K Romicil, 250-mgm. ROCHE.
L Lysivane, 50-mgm. MB.

44A Di-Paralene, 50-mgm. ABB.
B Piriton Duolets AH.
C Haliborange AH.
D Diphenatil repeat action GLAXO.
E Mephine WYETH.
F Betonin BOOTS.
G Pharmaplex BENCARD.
H Bilevac WED.
I Kina-Redoxon ROCHE.
J Milontin, 0·25-gm. PD.
K Milontin, 0·5-gm. PD.
L Ribovin BR, PAR.

45A Ferroid RIKER.
B Sur-Bex ABB.
C Minacedin NAPP.
D Sodium chloride, gr. $15\frac{1}{2}$ Emplet PD.
E Thyroid gland, gr. $\frac{1}{2}$ Emplet PD.
F Thyroid gland, gr. 1 Emplet PD.
G Metagen PD.
H Tri-vitamin Dellipsoids RICH.
I Ferrous sulphate, gr. 5 PD.
J Chlorstreptin PD.
K Thyroid-ovarian Emplet PD.
L Sparine, 50-mgm. WYETH.

46A Atarax, 10-mgm. PFIZER.
B Benadryl, 25-mgm. PD.
C Ammonium chloride, gr. $7\frac{1}{2}$ PD.
D Armo-Noestrol forte ARMOUR.
E Ilotycin, 250-mgm. LILLY.
F Stilbagen HEW.
G Ferrous sulphate, gr. 5 Enseals LILLY.
H Nema worm, 0·2-mils (vet.) PD.
I Nema worm, 0·5-mils (vet.) PD.
J Magnogene BENGUE.
K Sodium salicylate, gr. 5 Enseals LILLY.
L Sodium salicylate, gr. 10 Enseals LILLY.

it may be that his guess will lend further support to an identification already tentatively made.

There are also the occasions when a doctor may want to know what tablets (or capsules) his patient has been receiving, and the only clue may be the remainder of the patient's supply with the markings on them. It may not be right that the doctor should have to seek such an answer, but that he sometimes has to cannot be denied. Therapeutic need and tablet marking can often provide the vital clues in

such a situation and it is expected of the pharmacist that he should be able to interpret them. It should be noted in using the charts that coloured tablets are given in actual size, and that placing the tablet on the picture may help in the identification. An exceptionally thick tablet may appear slightly larger in diameter in the reproduction if the tablet edge has been partially "visible" to the camera lens. The guide is necessarily incomplete. For one reason or another certain tablets had to be left out. Tablets on which



the name of the product appears are, as already mentioned, omitted. On others the markings were thought not to be distinctive enough. For the coloured tablets a photographic method of reproduction has been used—with inevitable inconsistencies. Thanks are expressed to all the manufacturers—even if they are not represented in the guide—who so generously co-operated in preparing it.

No guarantee can be given that any further supplements will be published. That depends on an unknown future.

The new permission given to manufacturers under the British Pharmacopœia to issue certain tablets in distinctive colours may so multiply the number of coloured tablets that either duplication occurs to such an extent that identification becomes, as with plain white tablets, impossible, or it may render the task so big as to be no longer worth while. Even if that happens the useful life of the present charts will be considerable and they will have fully justified themselves if even one fatality is averted by their use.

KEY TO TABLETS ILLUSTRATED ON OPPOSITE PAGE

47A Aspirin, gr. 5 Enseals LILLY.
B Aspirin, gr. 10 Enseals LILLY.
C Monotheamin, 200-mgm. Enseals LILLY.
D Ferrous gluconate, gr. 5 EVANS.
E Amesec Enseals LILLY.
F Protovite ROCHE.
G Corosedine BENGUE.
H Sparine, 100-mgm. WYETH.
I Fortior NAPP.
J Fergon BAYER.
K Ferrous gluconate, gr. 5 PB.
L Gluferate WYETH.
48A Ferrous gluconate, gr. 5 BOOTS.
B Glirona HS.
C Hewnite HEW.
D Therapeutic formula SQUIBB.
E Dibenyline (previously pink) SKF.
F Premarin, 0·625-mgm. ICI.
G Wandervite WANDER.
H Extrinemin WED.
I Crolax CROOKES.
J Hewferro HEW.
K Ammonium chloride, gr. 7½ BOOTS.
L Primaquine diphosphate, 13·2-mgm. ICI.
49A Enavid, 10-mgm. SEARLE.
B Mercuric iodide, gr. 8·75 BOOTS.
C Mercuric iodide, gr. 4·375 BOOTS.
D Terramycin S.F. PFIZER.
E Covatin WARNER.
F Veinotrope M CONT.
G Dicaldimin ABB.
H Benadryl, 25-mgm. PD.
I Benadryl, 50-mgm. PD.
J Sonergan MB.
K Tritheon ORTHO.
L Nembudeine ABB.
50A Butobarbitone, gr. 1½ EVANS.
B Achromycin V, 250-mgm. LED.
C Effervescent mouthwash B.P.C. BOOTS.
D Celevac HS.
E Nativelle Digitaline 1 600 gr. WJ.
F Cosecopin EVANS.
G Natirose WJ.
H Strycital SQUIBB.
I Wyovin with phenobarbitone WYETH.
J Notensil, 25-mgm. BINGER.
K Salimed compound MEDO.
L Natisedine WJ.
51A Crystodigin, 0·1-mgm. Diskets LILLY.
B Merbentyl with phenobarbitone RIKER.
C Deltacortone, 1-mgm. MERCK SD.
D Meratran RIKER.
E Enzolets BOOTS.

F Codelcortone, 1-mgm. MERCK SD.
G Planoform, 4-mgm. MB.
H Sethadil SKF.
I Choledyl, 100-mgm. AH.
J Ambodryl, 25-mgm. PD.
K Anacol BR, PAR.
L Biopar forte ARMOUR.
52A Co-Hydeltra MERCK SD
B Harmonyl, 0·25-mgm. ABB.
C Collozet CROOKES.
D Antrenyl, 5-mgm. CIBA.
E Hydrodyne MERCK SD.
F Protamyl MB.
G Dexamphet. sulph., 5-mgm. with amylobarbitone, 32-mgm. HS.
H Primodian PHARMETH.
I Mylodex BR, PAR.
J Ouabaine Arnaud, 2·5-mgm. WJ.
K Frenquel RIKER.
L Nydrane co. RONA.
53A Compocillin V, 125-mgm. ABB.
B Compound ferrous succinate Delli-
soids RICH.
C Hypnotic-sedative RICH.
D Corrosive sublimate solution B.P.C.,
gr. 4·375 BOOTS.
E Corrosive sublimate solution B.P.C.,
gr. 8·75 BOOTS.
F Sedalby BENGUE.
G Geriplex PD.
H Mio-Pressin No. 1 SKF.
I Mio-Pressin No. 2 SKF.
J Acimetion CONT.
K Gromidin BENGUE.
L Tropenal VIT.
54A Ferclor HARRIS.
B Phenergan, 10-mgm. MB.
C Phenergan, 25-mgm. MB.
D Oblivon-C, 100-mgm. BRI SCH.
E Fydal BOOTS.
F Mercoloran Emplet PD.
G Quadrin WARD C.
H Antrenyl, 10-mgm. CIBA.
I Procidol HS.
J Penicillin-V-Sulpha Diskets LILLY.
K Penbenemid 250 MERCK SD.
L Noludar, 50-mgm. ROCHE.
55A Rolicton, 400-mgm. SEARLE.
B Amargyl MB.
C Veriloid V.P. RIKER.
D Nidar ARMOUR.
E Sandril, 0·25-mgm. Diskets LILLY.
F Quinogen HH.
G Ferrous sulph. co. N.F. EVANS.
H Stomachic Delli-
soids RICH.

I Ferosan BOOTS.
J Sigmarycin PFIZER.
K Ferri. sulph B.P. EVANS.
L Tral. ABB.
56A Ripason ROBA.
B Iron Delli-
soids RICH.
C Antalby BENGUE.
D Abecedin NAPP.
E Atarax 25-mgm. PFIZER.
F Glistron HS.
G Tacc RIKER.
H Armo-Næstroï ARMOUR.
I Fluscorbin CONT.
J Anthisan, 50-mgm. MB.
K Anthisan, 100-mgm. MB.
L Dyspastol NAPP.
57A Korosyll BR, PAR.
B Recosen ROBA.
C Ferro-Redoxon granules ROCHE.
D Ferro-Redoxon ROCHE.
E Plesmet COATES.
F Chlorophyll tonic BOOTS.
G Chlorophyll co. EVANS.
H Amplex clinical ASHE.
I Amplex ASHE.
J Menopax forte CP.
K Entrosaly CONT.
L Veinotrope F CONT.
58A Histryl, 2·5-mgm. Spansule SKF.
B Histryl, 5-mgm. Spansule SKF.
C Mysteclin-V SQUIBB.
D Capsules Gabail AFD.
E Aminophylline and Amytal Pulvules LILLY.
F Bellergal retard SANDOZ.
G Belladenal retard SANDOZ.
H Hydrodeltalone, 1-mgm. WARD C.
I Hydrodeltalone, 5-mgm. WARD C.
J Deltalone, 1-mgm. WARD C.
K Deltalone, 5-mgm. WARD C.
L Epanutin and phenobarbitone PD
59A Carbital PD.
B Chloromycetin, 0·25-gm. PD.
C Taka-diastase & pepsin co. PD.
D Thyrophem ARMOUR.
E Menopax CP.
F Taka-diastase gr. 2½ PD.
G Asthma 23-D CAR.
H Ilotycin, 100-mgm. LILLY.
I Ferrous glycine sulphate MCP.
J Thyroid, gr. 1 ARMOUR.
K Thrombokinase, 10-mgm. GEIGY.
L Iodcopirine BENGUE.

KEY TO MANUFACTURERS

ABB = Abbott Laboratories, Ltd.
 AFD = Anglo-French Drug Co., Ltd.
 AH = Allen & Hanburys, Ltd.
 ALLIED = Allied Laboratories, Ltd.
 AMINON = Aminon Laboratories.
 ARMOUR = Armour Laboratories (Armour & Co., Ltd.).
 ASHE = Ashe Laboratories, Ltd.
 BAYER = Bayer Products, Ltd.
 BDH = The British Drug Houses, Ltd.
 BENCARD = C. L. Bencard, Ltd.
 BINGER = Benger Laboratories, Ltd.
 BENGUE = Bengué & Co., Ltd.
 BIOGLAN = Bioglan Laboratories, Ltd.
 BOOTS = Boots Pure Drug Co., Ltd.

BRI SCH = British Schering, Ltd.
 BR, PAR = Brook, Parker & Co., Ltd.
 BW = Burroughs Wellcome & Co. (The Wellcome Foundation, Ltd).
 CALMIC = Calmic, Ltd.
 CAR = Carnegies of Welwyn, Ltd.
 CIBA = CIBA Laboratories, Ltd.
 COATES = Coates & Cooper, Ltd.
 CONT = Continental Laboratories, Ltd.
 CP = Clinical Products, Ltd.
 CROOKES = Crookes Laboratories, Ltd.
 DC(B)L = Distillers Co. (Biochemicals), Ltd.
 DF = Duncan, Flockhart & Co., Ltd.
 EVANS = Evans Medical Supplies, Ltd.
 FAIR = F.A.I.R. Laboratories, Ltd.

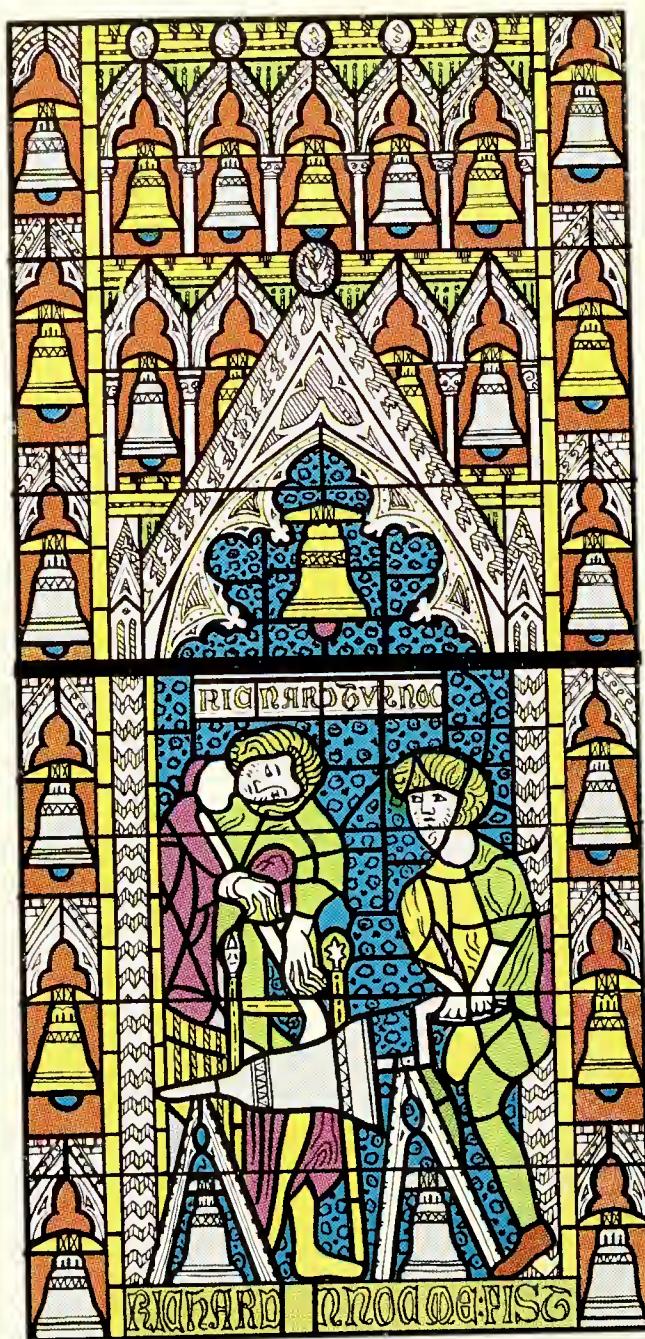
GEIGY = Geigy Pharmaceutical Co., Ltd.
 GLAXO = Glaxo Laboratories, Ltd.
 HARRIS = Philip Harris, Ltd.
 HEW = C. J. Hewlett & Son, Ltd.
 HH = Hough, Hoseason & Co., Ltd.
 HS = Harker Stagg, Ltd.
 ICI = Imperial Chemical Industries, Ltd.
 (pharmaceuticals division).
 INT = International Laboratories, Ltd.
 KUMAR = Kumar (London), Ltd.
 LAM = Lambert Chemical Co., Ltd.
 LFD = Lederle Laboratories Division (Cyanamid Products), Ltd.
 LILLY = Eli Lilly & Co., Ltd.
 MAW = S. Maw, Sons & Sons, Ltd.



MB = Pharmaceutical Specialities (May & Baker), Ltd.
MCP = M.C.P. Pure Drugs, Ltd.
MEDO = Medo-Chemicals, Ltd.
MEDETH = Medethical Products, Ltd.
MERCK SD = Merck Sharp & Dohme, Ltd.
MOORE = Moore Medicinal Products, Ltd.
NAPP = H. R. Napp, Ltd.
NORGINE = Norgine Pharmaceutical Products (London), Ltd.
ORG = Organon Laboratories, Ltd.
ORTHO = Ortho Pharmaceutical, Ltd.
PB = Paines & Byrne, Ltd.
PD = Parke, Davis & Co., Ltd.
PFIZER = Pfizer, Ltd.

PHARMETH = Pharmaceuticals (London), Ltd.
REC = Reckitt & Colman, Ltd.
RICH = John Richardson & Co. (Leicester), Ltd.
RICHTER = Gedeon Richter (Gt. Britain), Ltd.
RIKER = Riker Laboratories, Ltd.
ROBA = Robapharm, Ltd.
ROCHE = Roche Products, Ltd.
RONA = Rona Laboratories (John Smythe (London), Ltd.).
RYBAR = Rybar Laboratories, Ltd.
SANDOZ = Sandoz Products, Ltd.
SEARLE = G. D. Searle & Co., Ltd.
SILTEN = Silten, Ltd.

SKF = Smith, Kline & French Laboratories, Ltd.
S&N = Smith & Nephew, Ltd.
SQUIBB = E. R. Squibb & Sons, Ltd.
STRIX = Strix, Ltd.
UPJOHN = Upjohn of England, Ltd.
VIT = Vitamins, Ltd.
WANDER = A. Wander, Ltd.
WARD C = Ward, Casson, Ltd.
WARNER = William R. Warner & Co., Ltd.
WB = Ward, Blenkinsop & Co., Ltd.
WED = Weddel Pharmaceuticals (division of Union Cold Storage Co., Ltd.).
WJ = Wilcox, Jozeau & Co., Ltd.
WYETH = John Wyeth & Bro., Ltd.



PART OF THE "BELL FOUNDER'S"
WINDOW AT YORK MINSTER, SHOWING
THE FORMING OF A MOULD

Some English Bell Founders

... and their Mortars

AGNES LOTHIAN

THE chief centres of the bell founder's art in mediæval times were York, Gloucester, London and Nottingham. Those early bell foundries were often associated with the monasteries, the bells being cast by the monks and hung in the abbey under the supervision of the abbot.

Later on, when bell founding became a craft with its professional guilds, the bells were cast in the foundry and transported to their destination or cast in the precincts of the church itself. Some years ago excavations in the churchyard at Scarford, in Leicestershire, revealed evidence of the former existence of a furnace. A mass of bell metal recovered in a fused state showed that bells had been cast on that spot. Mortars and lavers were also made by the bell founders, possibly utilising the metal left over from a ring of bells. Bell metal is an alloy consisting of thirteen parts of copper to four of tin. The alloy melts easily and may be used again and again.

In 1913 a large mediæval mortar was found in a garden near Winchester. It is believed to have been cast for the infirmary of Hyde Abbey. In the Middle Ages monasteries usually had attached an infirmary for the care of the sick. The mortar would be used for pounding drugs and spices, as well as for domestic purposes. It was most likely buried by the monks at the time of the dissolution of the monasteries in land belonging then to the Abbey. That monastic



Running the molten metal. Part of the "bell-founder's window," York Minster.



1. The mortar, dedicated to St. John the Evangelist, belonging to the Infirmary of the Blessed Mary of York. Dated 1308. Height 9½ in. Top diameter 11½ in.

Reproduced by courtesy of the Yorkshire Museum, York.

mortar is now in Winchester City museum. It weighs 107 lb., is 11 in. high and has a diameter at the top of 13½ in.*

*W. H. Quarrell, *Pharm. J.*, 1916, i, 265.

The earliest English mortar with a date is one cast by Brother William of Towthorpe for the Abbey of St. Mary at York in 1308. After many vicissitudes it now rests in the museum of the Yorkshire Philosophical Society at York. The upper rim bears the inscription + MORTARIV. SCI. IOHIS EWANGEL. DE INFIRMARIA BE MARIE EBOR. (Mortarium Sancti Johannis Evangelistae de Infirmitate Beatae Mariae Ebor.)* The name of the ecclesiastical founder is on the lower rim + FR. WILLS DE TOVTHORP ME FECIT AD. MCCCXVIII (Frater Willielmus de Towthorp me fecit A.D. 1308). The body of this beautiful mediæval mortar (illustration 1) is ornamented with two rows of quatrefoils, which contain the symbols of the four evangelists.

In the nave of York Minster there is a stained glass window known as the bell-founder's window—a memorial to Richard Tunnoch, who was a bailiff in the city in 1320. There are three lights, each 20 ft. high by about 3 ft. wide and divided into five compartments. In the head tracery there are three quatrefoils, in each of which is a full-length figure: (a) St. Andrew with his cross; (b) St. Paul with his sword; and (c) St. Peter with his keys, each having a bell on either side of him. The window depicts the mediæval method of making a small bell.

"The two side lights have a border of bells running all round. . . . On the left hand is represented the mode of forming the mould of a bell, called the core. One figure is turning it with a handle like a grindstone and another with a long crooked tool (which he holds firmly with both hands, one end being placed under his right armpit) is moulding the clay to the proper form. On the floor of this compartment are shown two bells, between the legs of the trestles on which the mould is being turned. In the compartment on the right hand there are three figures busily engaged in running the molten metal. The furnace is of an ecclesiastical type, in which the metal is

*The mortar of (or dedicated to) St. John the Evangelist belonging to the Infirmary of the Blessed Mary of York.

kept heated by two pairs of large domestic bellows worked by a boy, who holds a handle in each hand; another boy is helping him by standing with one foot on each upper board of the bellows, on which he manages to support himself and regulate his movements by holding on with one hand to a bar fixed just above his head. The other figure, we may suppose, represents the chief workman who, having tapped the furnace, is carefully watching the molten metal running into the mould below.

In the centre compartment we have a suppliant figure, with uplifted hands, kneeling before an Archbishop, whose right hand is uplifted in the act of blessing the person kneeling. There issues from between the uplifted hands of the suppliant a scroll, inscribed "RICHARD TUNOC."*

Cire Perdue

The earliest instructions for making bells, says Dr. Raven,† are found in a treatise by Walter of Odyngton, a monk of Evesham in the time of Henry III. The process he describes is the *cire perdue* or "lost wax" method of casting.

The bell is first modelled in wax on a "core" making up the model to the desired thickness of the bell. The wax model, to which vents and pouring channels are attached, is then surrounded by a "cope" or mantle of clay. In the firing process the melted wax is allowed to escape through the vents. The metal is then poured in to take the place of the wax. The "lost wax" method is still used to cast bronzes.

The "Clay Bell" Method

The method of bell founding which was in use in England for many centuries was to prepare in a pit two moulds—an inner and an outer known as the "core" and "cope" respectively. A space was left between the two moulds and molten metal was run into that space. A travelling *crook* or *sweep* made of wood, curved to the shape of the inside of the bell, was attached by means of a swivel to a vertical stake driven into the bottom of the pit. The core was built round that stake by laying down a hollow cone of brick-work and covering it with a mixture of soft clay, cows' or calves' hair and horse or cow manure, the clay being shaped by running the crook round on its spindle, thus forming an exact model of the inside of the bell. The model was dried by lighting a charcoal fire inside the core. When cold it was dressed with china clay or well greased, and a layer of clay modelled on to it with the aid of a crook shaped to the curves of the outside of the bell. Any inscription or ornaments, modelled in wax, were attached to the outside of the clay model and, after drying, that was greased. The cope of clay, hair and hay was now built round the model, vents being provided for the escape of grease and wax during the next operation. A fire was kindled inside the core, and the whole thoroughly baked. When the cope was firm and hard, it was lifted and the clay model broken away. It was then replaced over the core, and the pit was filled with earth, which was rammed hard to keep the cope in position. Channels were made in the earth, and the molten metal run into the space formerly occupied by the clay model.

Bell Founding Today

The mould is constructed in two parts, the core conforming to the shape of the inside and the cope to that of the outside of the bell. The core is built up on a brick foundation standing on a circular base plate, the whole being mounted on a flat, four-wheeled trolley. The foundation is covered with a "loam" composed of yellow London clay, horse-hair and horse-manure. A steel rod is inserted vertically into the centre of the mass, and to it is attached, by means of a swivel, the moulding board or "strickler." The clay mixture is roughly moulded by hand and smoothed to shape by turning the moulding board around its central axis. The trolley is then wheeled into a drying chamber, after which the core is coated with graphite and polished

to a smooth finish. The cope is prepared by lining a cast-iron perforated moulding case with "loam," which is smoothed to shape with a swivelled moulding board. After the outer mould has been polished with graphite, any decoration or inscription is carefully impressed on its inner surface, which is then dried. When thoroughly dry the cope is inverted over the core, the two being clamped together, and the space between them filled with molten metal. When quite cold the cope is lifted, and the bell cleaned to remove any adherent clay. Although the size, weight and thickness of the bell have been calculated to give the required note as nearly as possible, it is necessary to accomplish the final tuning by means of a "tuning machine" or vertical lathe, which removes turnings of metal from the inner surface.

Casting Mortars

Bell-metal mortars were cast by methods similar to those employed in bell founding but, owing to the fact that the mortars were made normally with broad flat bases, and sometimes with handles, certain modifications were necessary. It will be readily understood that those variations in shape would prevent the ordinary type of bell cope from being withdrawn after the metal was cast.

It is almost certain that early mortars were made by the "clay bell" method, whereby the core was formed in the same manner as for a bell. After drying, the core was well greased, and a clay model of the finished mortar fashioned around it. The whole was again dried and, after cooling, any inscription, foundry marks or designs made of wax were applied to the outside of the model, which was then greased and a cope built up round it. When the cope had been dried, it was lifted together with the clay model from the core. The model was carefully broken away, leaving a clear impression including the design within the cope. The two parts of the mould were finally clamped together, and the molten metal poured into the space between the two. When cold the cope was broken away, leaving the finished mortar inverted over the core.

It is clear from that description that only one mortar could be made from one model, but later on a method was evolved whereby any number could be cast using a single model. The model was made of turned hardwood, often of lignum vitæ, and was in two parts—the body and



Wooden mould in two parts (shown separately and fitted together) for use when more than one mortar of the same design was required to be made.

the base—which fitted neatly together. The mould was made of fine moist sand in several stages. First the hollow body of the model was filled with sand and inverted over a base plate. A square frame of wood or metal the same depth as the body was placed over the model and filled with sand. Another shallow frame was placed on top of the first, which was then filled with sand to the level of the flat base of the model. If the design of the base was complicated by "undercut" rings, it was then necessary to use two or more shallow frames to mould the base. Modern metal moulding frames are each provided with a round hole close to one

*Ellacombe, H. T., *Bells of the Church*, 1872.

†Raven, J. J., *Church Bells of Suffolk*, 1890.

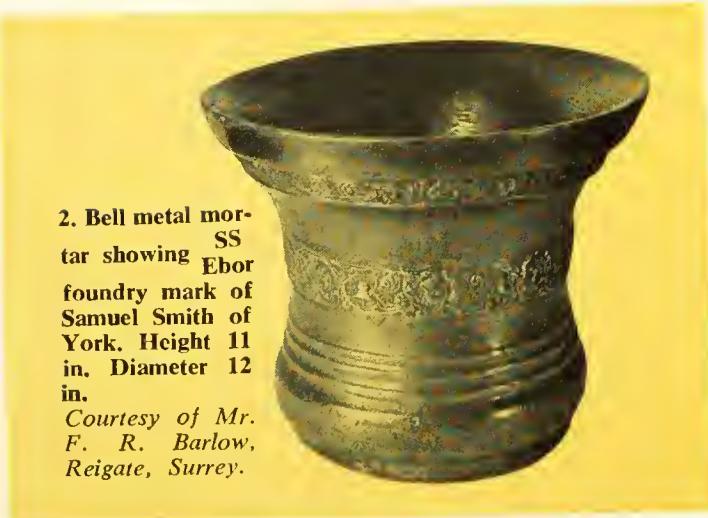


STAGES IN THE CASTING OF A BELL

1. Shaping the "core."
2. Laying up the "loam" in the cast-iron mould for the "cope."
3. Impressing the inscription or decoration.
4. Closing down the "cope" on to the "core."
5. Pouring in the molten metal.



corner, and the hole is accurately positioned so that it is in register with its fellow when other frames are added. Thus a continuous tube is formed through the pile, and the lower end communicates with a V-shaped channel in the base plate. The two arms of the V join up with the sand mould, allowing a free passage for the molten metal to be poured in from the top of the tube, and filling the mould from the bottom upwards. The frames having been filled with moist sand, they are removed carefully one by one, the two parts of the wooden model being taken out at the appropriate time. The frames are finally replaced without disturbing the sand, and pouring is commenced. If an inscription is required it is formed by impressing type into the inner surface of the body portion of the mould before the various frames are replaced.



2. Bell metal mortar showing SS Ebor foundry mark of Samuel Smith of York. Height 11 in. Diameter 12 in.

Courtesy of Mr. F. R. Barlow, Reigate, Surrey.

Post-Reformation Foundries

The most important post-Reformation foundry in York was that of Abraham Smith (1652-62) which was carried on after his death by Samuel Smith until 1709. His bells and mortars and those of his son, also called Samuel (1709-

SS 1731), are marked **Ebor*** The fine mortar from that foundry (illustration 2) is reproduced by courtesy of Mr. F. R. Barlow, Reigate. It is 11 in. in height, 12 in. in diameter at the top, and weighs 56 lb. The foundry mark may be seen in the centre of the waist decoration, which shows his characteristic border of intertwining scrolls, with which are interspersed bells.



3. Bell metal mortar dated 1619 attributed to John Conyers of Hull. Height 6½ in. Diameter 9½ in.

Museum of the Pharmaceutical Society, London.

Another interesting Yorkshire mortar, which is in the possession of the Pharmaceutical Society, is inscribed REJOYSE IN IESUS CRISI 1619. The initials of the bell founder I. C. led the former owner (Mr. Arthur Hemming) to identify

this mortar with John Conyers, a bell founder working at Hull between 1616 and 1630 (illustration 3).

Gloucester was another important centre of bell founding in early times, Hugh le Bellytere, working about 1270, was followed by Sandre (Alexander) of Gloucester early in the fourteenth century, while John of Gloucester cast four bells for Ely Cathedral in 1346. However, the most important Gloucester foundry was that established in 1684 by Abraham Rudhall (1657-1736). With his son, also named Abraham (1680-1735), he cast bells for St. Bride's, Fleet Street, and St. Dunstans-in-the-East, London, and many other churches.

A mortar dated 1685, with the initials A. R., recorded in the *C. & D.*, September 15, 1883, p. 478, is most likely the work of Abraham the elder, his stamp being a bell between the initials A. R. Abraham Rudhall had four ornamental borders — two of a floral character, one linked fleur-de-lys, and one of arabesque patterns. Only one pattern was adhered to by his successors. Abraham used a good plain alphabet for his lettering. A large mortar in the Pharmaceutical Society's museum (E. Saville Peck coll.) inscribed round the waist SAMVELL HAWKINS. OF. GLOUCESTER 1704, has the linked fleur-de-lys decoration below the lettering.

Passed to Whitechapel

A bell-metal mortar formerly in the possession of the late Mr. W. H. Hampton, Gloucester, inscribed JOHN LOVETT DRUGGEST GLOUCESTER, J. R. FEC'T 1818 is also from the Rudhall foundry, the initials J. R. signifying John Rudhall (1783-1830) a descendant (illustration 4). In 1829 the goodwill of the foundry passed from John Rudhall to Thomas Mears II, of the Whitechapel Bell Foundry, London. The John Lovett mortar is now in Gloucester Folk Museum.



4. Bell metal mortar by John Rudhall of Gloucester. Dated 1818. Now in the Gloucester Folk Museum. Height 9½ in. Diameter 12 in.

The Whitechapel Bell Foundry, established in the year 1570, is still in existence today in Whitechapel Road, London, E.1. Formerly in nearby Essex Street, it was moved across the road to the present site in 1738. Robert Mot, the owner from 1575 to 1605, became well known as a bell founder and cast bells for Westminster Abbey in 1583 and 1598. His foundry stamp is three bells and the initials R.M. within a circular wreath. He was succeeded by Joseph Carter from Reading in 1606. Hemming records the existence of a mortar in Capetown inscribed JOSEPHUS CARTER ME FECIT FOR THOMAS SADLER, 1609. While Joseph Carter used a mixture of Latin and English on his bell and mortar in-

*Ebor, signified Eboracum, the Roman name for York.



5. Whitechapel bell foundry mortar inscribed WILLIAM CARTER MADE ME FOR GEORGE BEERE. T.B. 1615. Height 9 in. Diameter 12 in.

Courtesy of the Victoria and Albert Museum, London.

scriptions, his son William Carter (1609-16) and his successors used English. WILLIAM CARTER MADE ME FOR GEORGE BEERE T.B. 1615, in Roman letters is the inscription on a bell metal mortar now in the Victoria and Albert Museum (illustration 5). The initials T.B. are those of Thomas Bartlet, William Carter's foreman at the time.

Thomas Bartlet, who succeeded to the business in 1616, made a number of mortars. One formerly in the Hemming collection and now in the museum of the Pharmaceutical Society (E. Saville Peck coll.) is inscribed THOMAS BARTLET MADE ME, 1624. Daniel Davison records another inscribed THOMAS BARTLET MADE ME for GEDEON DELAUNE, 1625, Gideon Delaune being physician to Anne of Denmark, consort of James I. The mortar (C. & D., July 27, 1907, p. 156) weighs 210 lb. (illustration 6).



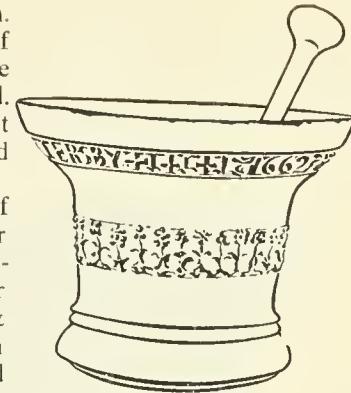
6. Whitechapel mortar inscribed THOMAS BARTLET MADE ME FOR GEDEON DELAUNE, 1625. Weight 210 lb.

Thomas Bartlet should not be confused with Thomas Bartlett, a bell founder of Durham, who "did cast the Abbey bells the summer before he dyed." He was buried on February 3, 1632.

The sketch at head of next column shows a Whitechapel mortar from the collection of the late Mr. A. J. Fairlee. It is inscribed JOHN BATTERSBY 1662. John Battersby was apothecary to Samuel Pepys, and it is interesting to note that the Whitechapel Foundry installed in 1662 a ring of six

bells at St. Olave's Church, Hart Street, in the City of London, the church where Samuel Pepys worshipped. The bells survived the Great Fire of London, but perished in the conflagration of 1941.

The inscription band of another interesting mortar from the Whitechapel foundry reads "Richard Raper Apothecary at the Bell & Lyon in Cheapside, London 1705." The name Richard Raper (or Rapier) appears in several of the early eighteenth-century editions of the "Catalogue of Members of the Society of Apothecaries Living in or about the City of London." The mortar (illustration 7) is in the possession of Allen & Hanburys, Ltd., London.



7. Whitechapel mortar inscribed RICHARD RAPER APOTHECARY AT THE BELL & LYON CHEAPSIDE LONDON 1705. Height 13 in. Diameter 16½ in.

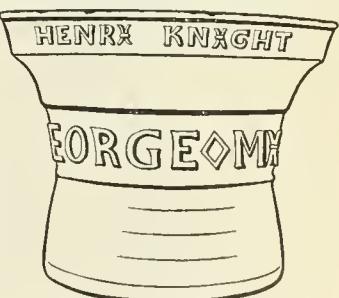
Reproduced by courtesy of Allen & Hanburys, Ltd., London, E.2.

Among famous bells made at the Whitechapel foundry are Big Ben of Westminster (over 13½ tons in weight), Great Peter of York Minster, and Bow Bells of Cheapside (recently recast).

Henri Knight (1587-1622)

Only one mortar by the bell-founder Henri Knight is recorded. It has "HENRI KNIGHT MADE MEE" in bold Roman lettering on the rim. The name GEORGE MILLISENTE 1618 is in larger letters round the waist. Mr. E. Saville Peck illustrated that rare specimen in the C. & D., June 28, 1952, p. 892. Henri Knight was the principal Reading founder of that day. There is a church bell at Ilmer, Bucks, inscribed HENRI KNIGHT MADE MEE, 1618.

A heart-shaped shield with a bell between the founder's initials was one of the marks used by John Martin, a bell founder of Worcester (1644-93). The foundry stamp appears below the rim of a well ornamented mortar in the museum of the Pharmaceutical Society—a bell between the initials I.M. That fine mortar has the name HVGH HOWELLS 1681 above the ornamental border (illustration 8). Note the use of the letter I for J and V for U, often seen



on English seventeenth-century drug jar and mortar inscriptions. In Mr. Horace Wright's pharmacy at Edgware, Middlesex, is an even larger mortar by John Martin, with the same date. The name on it is EDMVND PITT. The mortars are very similar in appearance.



8. Finely ornamented mortar by John Martin of Worcester. Dated 1681. Height 8½ in. Diameter 10 in. Museum of the Pharmaceutical Society, London.

Martin's bells are richly decorated with arabesques and other patterns. One at Himbleton bears the quaint inscription "John Martin of Worcester he made wee be it known to all do wee see, 1675."

The mortar with the lid and pestle (illustration 9) is reproduced by courtesy of Philip Harris, Ltd., Birmingham. The inscription reads ARTHVR GOLDWELL OF OVNMLE 29 MAY, 1668. It is of passing interest that one of the bells of St. Peter's, Oundle, is inscribed EX DONO JOHANNIS LEWIS DE OVNMLE, APOTHECARII, HENRICVS BAGLEY FECIT, 1688. As Mr. John Lewis died on December 3, 1687, it may have been a gift under his will. Henry Bagley had an important foundry at Chalcomb, nr. Banbury.

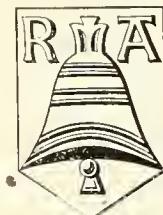


9. Mortar with lid and pestle in the possession of Philip Harris, Ltd., Birmingham, inscribed around the rim ARTHVR GOLDWELL OF OVNMLE 29 May 1668. Height 14 in.

Ralph and Luke Ashton

Lancashire is represented by a bell foundry at Wigan. Ralph Ashton, working there 1703-20, was responsible for the large mortar now in the Pharmaceutical Society's museum (E. Saville Peck coll.) inscribed "Peter Milbrum," 1706. That mortar, formerly in the possession of Mr. Arthur Hemming, was illustrated in the *Connoisseur* for March 1929. It has Ralph Ashton's foundry mark—a shield with a bell below the initials R.A. One of his bells at Kirkbampton, Cumberland, dated 1705, has a similar mark.

Luke Ashton (1724-50) also made large mortars. One of his, dated 1732, is in a pharmacy at Chester. The description of other recorded specimens is as follows:—"Anthony Ranicars 1736"; "Richard Tomkins, 1739" (formerly in the Hemming collection); "Daniel Moore, 1739" (in the Pharmaceutical department of Manchester Royal Infirmary (illustrations 10a and 10b) and showing his foundry mark



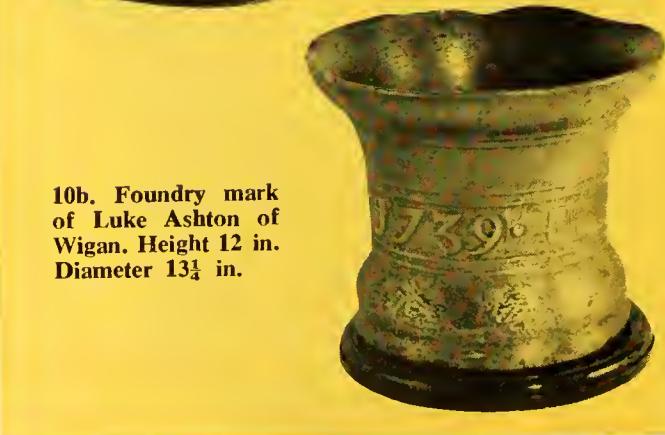
Luke Ashton
Wigan

There is also another example in the Public Library at Wigan with the date 1740.

The Ashtons used minuscules or "lower-case" letters on their bell and mortar inscriptions. That characteristic lettering was also used by another bell founder—Richard Sanders of Bromsgrove.



10a. Bell metal mortar in Manchester Royal Infirmary inscribed "DANIEL MOORE 1739."



10b. Foundry mark of Luke Ashton of Wigan. Height 12 in. Diameter 13½ in.

Richard Bowler of Colchester (1587-1603) used both Roman and Gothic alphabets and a variety of stops on his bell inscriptions. A small mortar by him illustrated in the *Connoisseur*, June 1934, is inscribed on the rim in Roman lettering RICARDVS BOWLER ME FECIT, 1595.

Little is known about Richard Bowler but there is a record in 1600 that one "Ambrose Gilbert did grevouslye hurte and wounded one Richard Bowler of Colchester bell founder soc as it is thought the said Richard is in greate daunger of Dethe." There seems to have been some connection between Richard Bowler and Richard Holdfeld of Cambridge. The latter may, it is thought, have worked with Bowler at Colchester from 1660 to 1663. An undated mortar

in the collection of the late Mr. England Howlett inscribed RICARDVS ME FECIT HOLDFELD has round the waist "GILBERT MORDEN" in Gothic type similar to that used by Bowler. Richard Holdfeld worked between 1599 and 1612. He cast the clock bells of Trinity College, Cambridge, in 1610. Deedes & Walters, in their "Church Bells of Essex," point out that Holdfeld sometimes used a foundry shield very like that of Robert Oldfield (1605-40) of Hertford—but with the initials R.H., the similarity of both name and stamp being quite remarkable.

Bury St. Edmunds

Two mortars are attributed to Stephen Tonni, a bell founder of Bury St. Edmunds, working at the end of the sixteenth century—one dated 1570 and the other 1574.

The 1570 specimen bears on one side his foundry mark: the Bury St. Edmunds crown pierced by two arrows in saltire flanked by fleur-de-lys. On the other side are three

initials in Gothic capitals ST E signifying Stephen Tonni, Edmondsbury—an early name for Bury St. Edmunds.

The initials TD & W.L., sometimes seen on Stephen Tonni's bells, are thought to be those of Thomas Draper and William Land, who assisted him. His bells are usually inscribed DE BVRI SANTI EDMONDI STEFANVS TONNI ME FECIT, with a fleur-de-lys between each word.

Thomas Andrew, a successor, also used that well-known foundry mark. One of his mortars is in the museum at Saffron Walden. It is dated 1597. Andrew was in turn followed by Thomas Cheese (1603-35) who made a number of mortars. A well-known example has the inscription band round the waist THOMAS CHEESE MADE ME with the Bury St. Edmunds foundry mark and the fleur-de-lys. On the rim there are a narrow border of floral decoration and the date 1633.

Bury St. Edmunds would also seem to be the provenance of a large bell metal mortar in Cope & Taylor's pharmacy at Derby, dated 1634, with the same foundry mark.

We now turn to William Land of Houndsditch, probably the son of the assistant to Stephen Tonni mentioned above. His mortar, dated 1612 (illustration 11) is reproduced by courtesy of the Trustees of the British Museum. No other example is recorded. The inscription reads WILLIAM LAND MADE ME 1612 and the initials I.L. As those initials also occur on a bell at Gt. Yeldham, the letters probably denote a J. Land acting as foreman.



11. Mortar inscribed WILLIAM LAND MADE ME 1612, with initials I.L. Reproduced by courtesy of the Trustees of the British Museum.

The Neales of Burford

A bell foundry was established at Burford by Henry Neale of Somerford Keynes, Wiltshire, some time in the 1630's. Several mortars from that Oxfordshire foundry are in existence. The earliest, dated 1631, has two square handles, and is decorated round the base with a border of overlapping semicircles. The inscription band, which is just below the rim, reads HENRYE NEALE MADE MEE 1631. The

words and the date are separated by heartshaped stamps.

Below the bell founder's name are the initials B A S. Henry Neale cast a ring of bells for Burford Church in 1635.

Another mortar of similar shape is lettered round the base EDWARD: NEALE: MADE: MEE: FOR: GEORGE: BACKSTER. Between the words EDWARD and BACKSTER is the stamp of a bell. On the body in bold figures is the date 1658. Both those mortars are now in the museum of the Pharmaceutical Society (E. Saville Peck coll.).

A chevron between three bells and the initials E.N. indicate that Edward Neale was responsible for a large mortar inscribed I: WAS: MADE: FOR: FRANCIS: KEBLE 1659. Edward Neale was also the founder of several mortars with the effigy of Charles II. Of those the most important is a large specimen from the collection of the late Mr. G. E. Howard of Ilford. It has the crowned head of the Merry Monarch between the Royal Cypher C.R. (signifying Charles Rex). Around the base is EDWARD NEALE 1664 THOMAS CAELS. Two other mortars with the crowned head of Charles II between the initials E.N., dated 1662 and 1665 respectively, must also be ascribed to that bell founder. His bells date from 1641 to 1685.



There is a curious epitaph to Elizabeth, wife of Edward Neale in the northern transept of Burford Church—known as the bell founder's aisle.

According to Mr. H. B. Walters Gothic or "black letter" styles were preferred by many founders until the end of the reign of James I. Roman lettering was adopted very slowly, though it occurs as early as 1560 at Stanton All Saints, Suffolk, and was invariably used by Stephen Tonni, Bury St. Edmunds (1559-87).

The Civil War marks the introduction of universal Roman lettering and after 1640 the older styles are rare. Exceptions are Henry Oldfield, Nottingham, who, after using Roman about 1620, reverted to Gothic circa 1700, and Thomas Hedderley, Nottingham, who used mediæval capitals.

Arabic numerals are not generally found on bells before the fifteenth century, though they occur on a bell in Durham Castle dated 1495.

The following verses, taken from the Christmas 1922 number of *The Peckwick Papers*, a unique "house organ" produced occasionally by the staff of G. Peck & Son, Chemists, Cambridge, of which the late Mr. E. Saville Peck was a principal, may appropriately wind up this account of one of the ancient tools of the pharmacist's trade.

SONG OF THE BELL MORTAR

I rang with a clang on a bench and sang,
With the alchemist sage beside me.
I felt the pang of the pestle's bang
And tang of sweet herbs inside me.

Then was the world young,
As I lustily sung,
And deep notes I flung
Poor mortals among.
Time changes has wrought,
With ill-omen fraught,
And new customs brought
Silenced my brazen tongue.

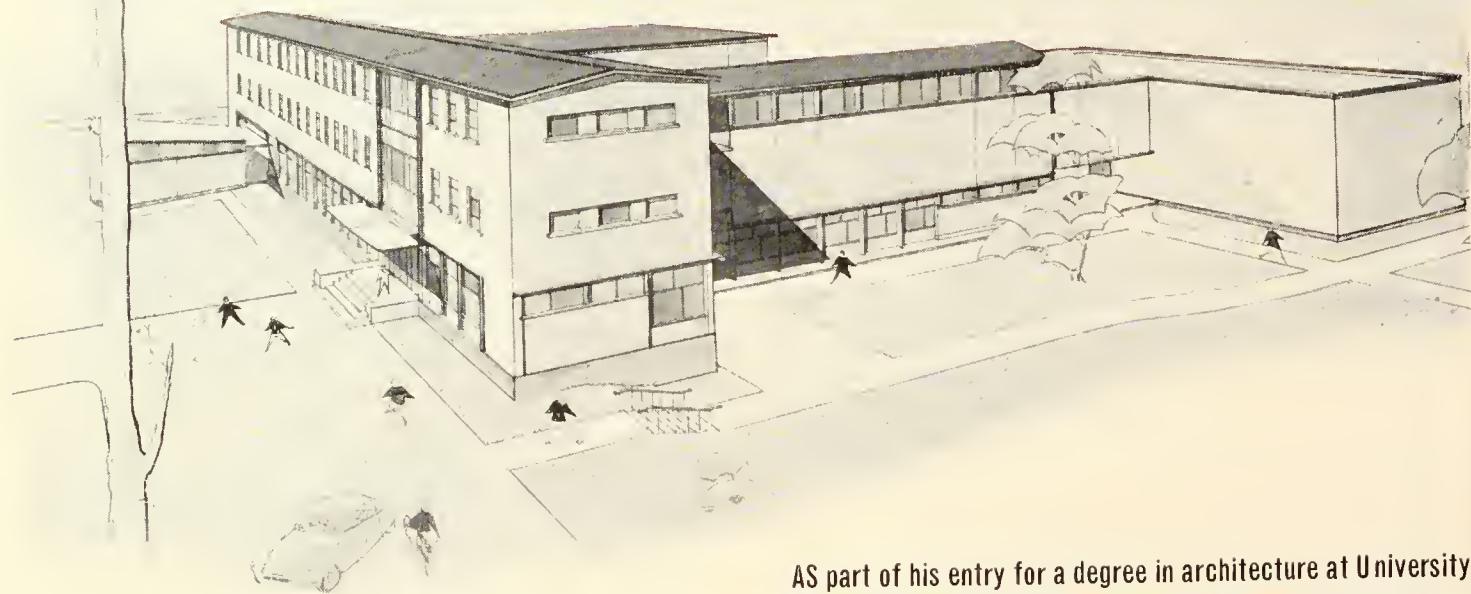
Nor sing, neithir ring as I did, nor fling
My notes in the presence of sages;
But mute as a lute that is dead, I suit
My mood to the passing of ages.

W. ARJAY.

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Walters, H. B., "Church Bells of England," 1912.

DESIGN FOR A COLLEGE OF PHARMACY



A COLLEGE of pharmacy for Dublin would need to cater for 120 students, assuming an annual intake of, say, sixty students, plus some doing research or taking post-graduate courses. The college authorities consider that a new college should, too, cater for equal numbers of male and female students.

The requirements of the college may be put under five main headings, namely educational; cultural; recreational; staff; and general.

Section 1 may be further subdivided into (a) lectures, (b) laboratory practicals, and (c) research. The course of study provides for six weekly chemistry lectures, two chemistry practicals, three botany lectures and one practical, and three bacteriology/zoology lectures and one practical in the first professional course; and five pharmacy lectures and two practicals, three pharmacognosy lectures and one practical, one pharmacology lecture and one practical, and one chemistry lecture, in the final professional course. The lectures are given mainly in the mornings, with laboratory practicals in the afternoons. The laboratories have to cater for thirty students at a time, classes of that size being considered advantageous to both students and demonstrators. As the work is considered "noisy," the laboratories ought to be situated well away from the more quiet areas—those for research in each subject both by staff and by students doing post-graduate work.

The College being independent of the university, it must cater for the cultural and recreational needs of its students. Provision must be made for college and Pharmaceutical Society functions (the conferring of degrees; club and committee meetings; "inaugurals" and extra-mural lectures), in addition to gymnasium and outdoor sports. An assembly hall and restaurant are needed for some of the functions and for the occasional dance or drama that may be staged by the college societies. The accommodation would also be used by the Pharmaceutical Society of Ireland for conferences and general meetings; the restaurant would be used to serve coffee and lunches to students during the day.

The College teaching staff of eight, and a clerical staff of about four, require retiring and common rooms in addition to such facilities as, for example, a reference library. The non-teaching staff (laboratory attendants, for example)

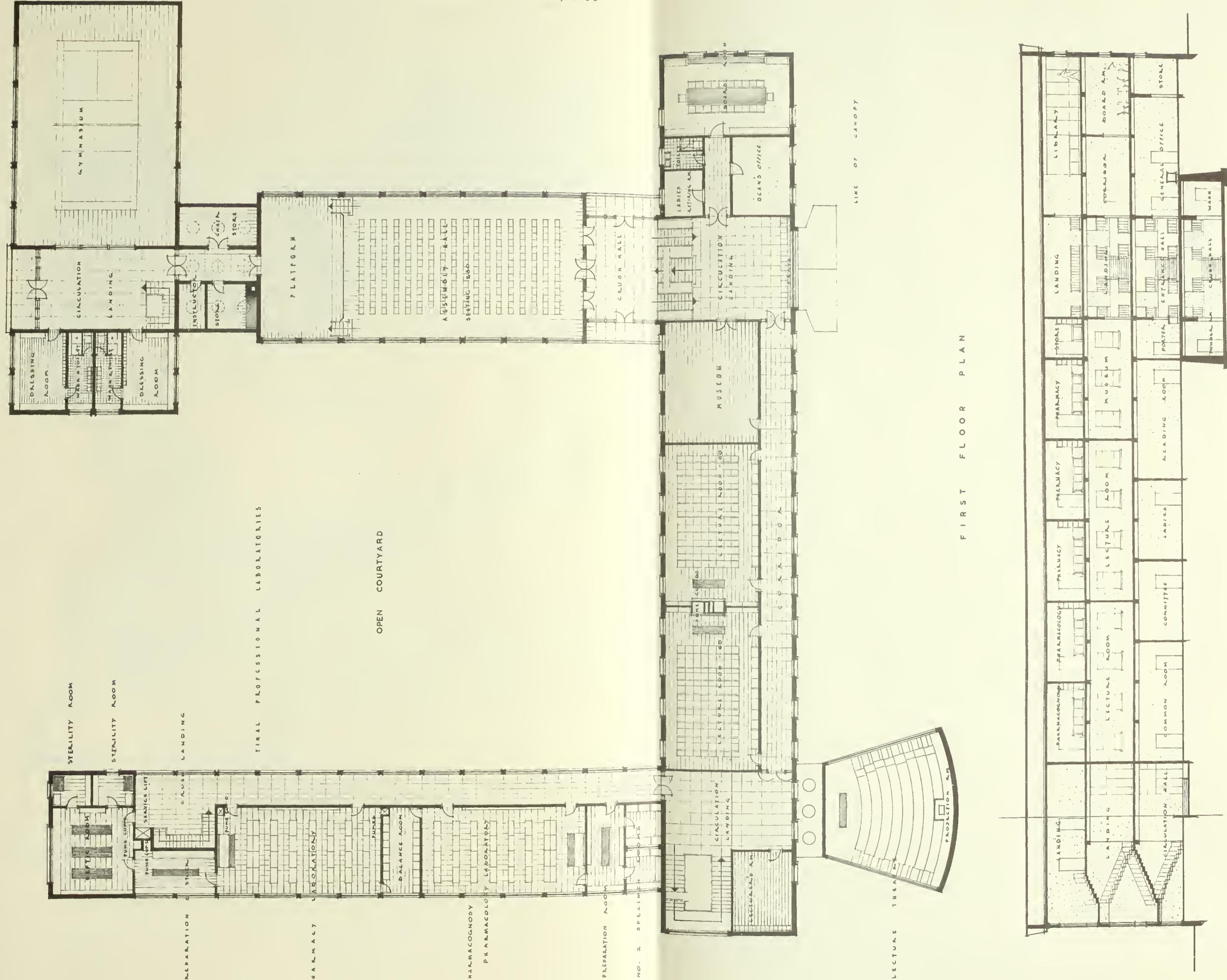
AS part of his entry for a degree in architecture at University College, Dublin, every student has to prepare a thesis—with plans, elevations and perspectives—for a project of his own choice. Mr. Noel F. Bowman, son of a pharmacist at Dunmore, co. Galway, chose to design a College of Pharmacy, basing his scheme on the ideal requirements of the College of the Pharmaceutical Society of Ireland. Mr. Bowman was successful in gaining his degree, and we believe readers will find interest in studying a selection of his many detailed drawings and in reading the text based on his thesis.

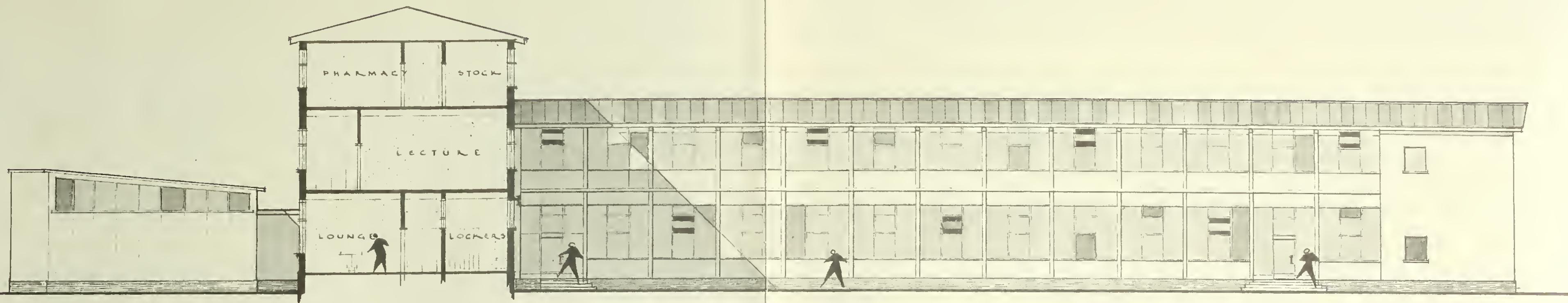
also need a common room in addition to cloakroom and toilet accommodation.

General requirements include administrative offices, cloakroom and toilet accommodation for (and convenient to) all sections and functions of the college. It should allow for all service accommodation (gas, water, electricity, heating, etc.).

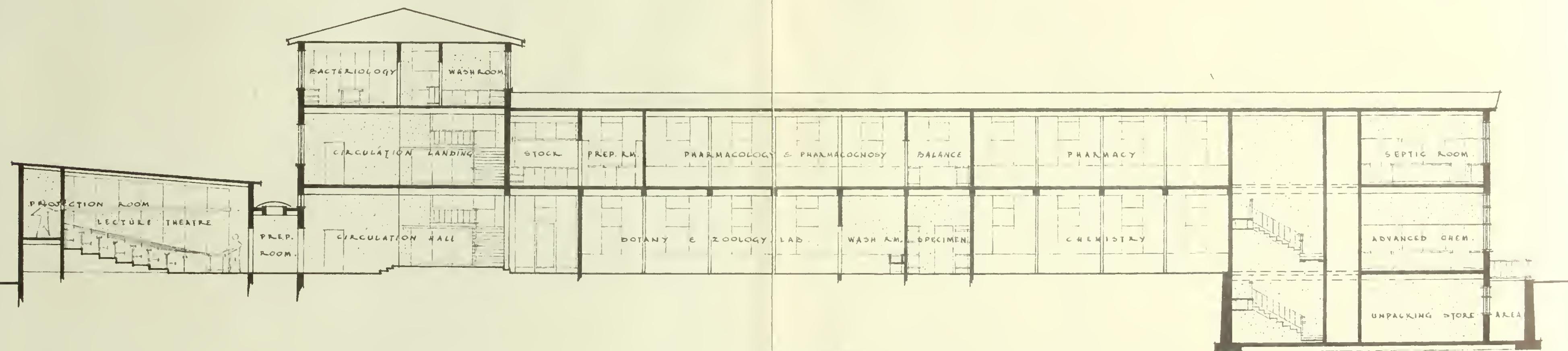
In the choice of site for the college, the decision embodied in the thesis was influenced by the factors of access; proximity of bus routes; surroundings; and general suitability with regard to appearance and features, soil for foundations, etc. The site chosen is situated on the south side of Dublin city, about two miles from the centre. It is bounded on the north-west by Simmonscourt Road and on the south-west by Simmonscourt Avenue. It is served directly by roads joining Ballsbridge and Donnybrook and indirectly by the Dublin-Bray and Dublin to Dun Laoghaire roads. It was thought desirable to have no main roads with direct access to the site, but it is served indirectly by two different bus routes, giving a service of one bus approximately every five minutes to within 150 yards of the site.

The site is in a quiet, mainly residential area of low population density. On the other side of the road are the Royal Dublin Society's headquarters and showrooms; to the east is Shrewsbury Road, where the present College of Pharmacy exists, and to the west and south are residential property and playing fields. It would seem reasonable to assume that little further development will take place in





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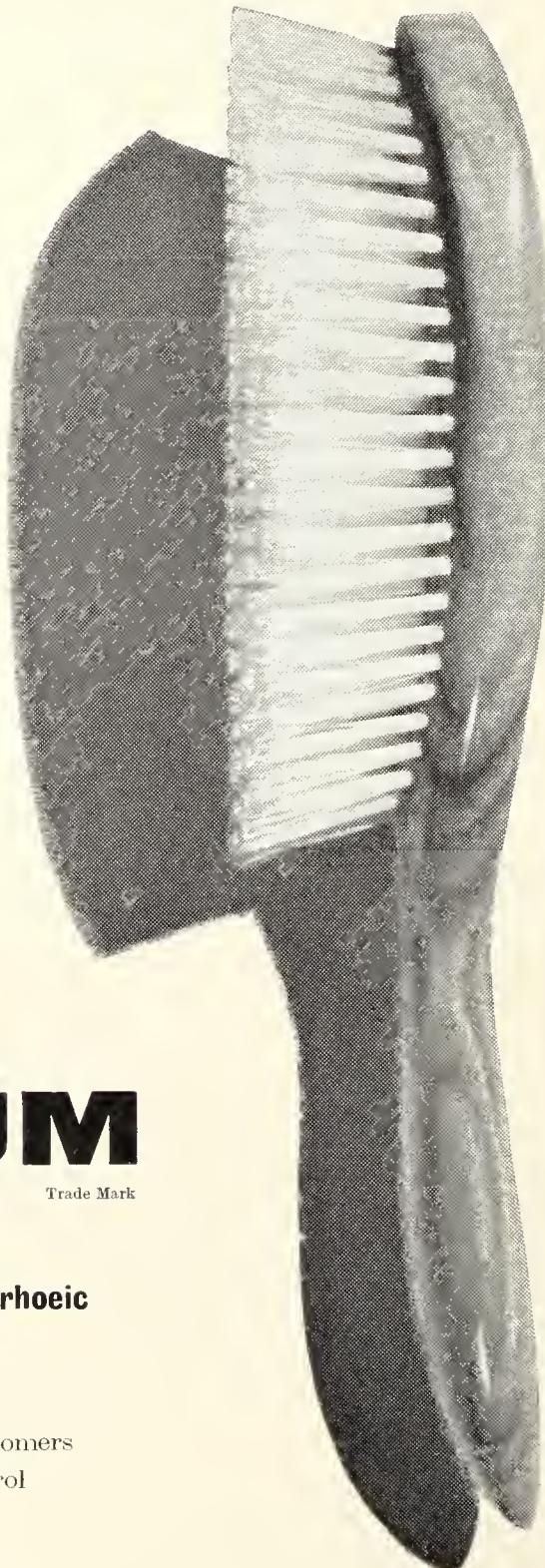
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the immediate vicinity of the site, so that the area will retain its present character and remain a suitable environment for students. The site is regular, with a gentle slope down from the road entrance, but rises again gradually to the centre, where it levels off and continues to the south-eastern end. The north-western half of the site is bounded by some fine trees, shrubbery and undergrowth, and it is proposed to retain as much of that as possible.

It is proposed that a high proportion of the students, while doing their three practical years, shall avail themselves of the recreational and cultural facilities as well as the extra-mural lectures afforded in the new college. That is an ambition which has not yet been realised, because the facilities either do not exist or exist only to a limited degree in the present college.

Disposition on Site

The college buildings will stand on the chosen site, whose area is approximately 12 acres, of which about 6 acres will be devoted to playing fields and tennis courts. The plan provides for three entrances to the site. The main entrance is from Simmonscourt Road on the north-west, a comparatively quiet road with little traffic. There is parking accommodation for twenty-four cars near the main entrance. The dominant feature of the grouping is then the main three-story block, which is parallel to the road on a north-east/south-west axis giving the required south-eastern aspect to the lecture rooms (principally used during the mornings) and the required north/north-west aspect to the research rooms. The two-story laboratory block and the assembly and restaurant block project out at right-angles from the south-east face, and the whole forms an open courtyard, sheltered from unpleasant winds by the laboratory block on the north-east, and giving the laboratories themselves the required north-north-east uniform lighting.

The assembly block is on the south-west, giving a south-western aspect to the restaurant as well as to the administration and staff rooms, which also look out across flower garden and lawns.

The second entrance to the site is from Simmonscourt Avenue. It is to be used only by pedestrians and cyclists, and the path on to which it opens leads to the second student entrance. It is connected to the main entrance by a similar path.

A second entrance is provided via Simmonscourt Avenue for students *en route* to the sports pavilion block and playing fields, with parking accommodation for about twenty cars and also for the delivery of all services and goods. A conservatory, a herb garden and the animal rooms are placed on the north-west side of the site, so that they are out of the way of the public while still being convenient to the laboratory block. It was considered unnecessary to have any direct link road for traffic on the site between the main front parking area and the sports pavilion area, but access via Simmonscourt Avenue is quite easy.

The plan provides for college buildings proper consisting of five distinct blocks or units as follows:

- (a) main three-story block;
- (b) a two-story assembly block carrying up to the height of three stories;
- (c) a two-story laboratory block;
- (d) a two-story gymnasium block;
- (e) a lecture theatre.

The positions of the different blocks on the site were governed by the aspect, position and shape of the site itself. The general layout of the buildings themselves was governed by the fact that, while a number of units (for example, administration, research, staff, and library) would require direct or easy access from the entrance hall, they would also require privacy and freedom from undue noise. That seemed to dictate some form of *cul-de-sac* planning. To that end it was decided to take full advantage of the existing differences in levels by introducing mezzanine floors. The general flow of the plan layout from the main entrance, which is on the north-west face of the three-story block, is

therefore into the main hall, from which immediate access may be gained (a) to the assembly hall on the upper mezzanine; (b) to the restaurant on the lower mezzanine, both of which are directly facing and on the main axis of the entrance; (c) to the administration on the right; (d) to the students' accommodation and to the circulation hall on the left, into which there is a second student entrance.

On the first floor there is a circulation landing over the entrance hall, giving immediate access to staff accommodation over the administration on the right, and lecture rooms and secondary circulation landing on the left. Those secondary circulation areas, which are themselves directly connected by an open staircase on the minor axis of the main entrance hall, in turn give access to the lecture theatre and first professional laboratories on the ground floor and to final professional laboratories on the first floor. The second floor becomes another quiet *cul-de-sac* having the library to the right and the research rooms to the left of the landing.

The sports pavilion block containing the gymnasium required also to be accessible from all parts of the building, but the noise emitted from it was undesirable in the actual college. It was therefore thought a block detached from the main building would be an advantage. By connecting the first floor dressing rooms on the same level with the stage of the assembly hall, they are enabled to be used in conjunction with the stage whenever the need may arise for having extra dressing rooms.

As the building is for the preparation of students who wish to enter the pharmaceutical profession, it should have the character and dignity of a college, and should look like one. The general building and site layout have been discussed. It is here proposed to refer only to the elevations and perspectives. In the design of those, the principal aim was beauty in simplicity.

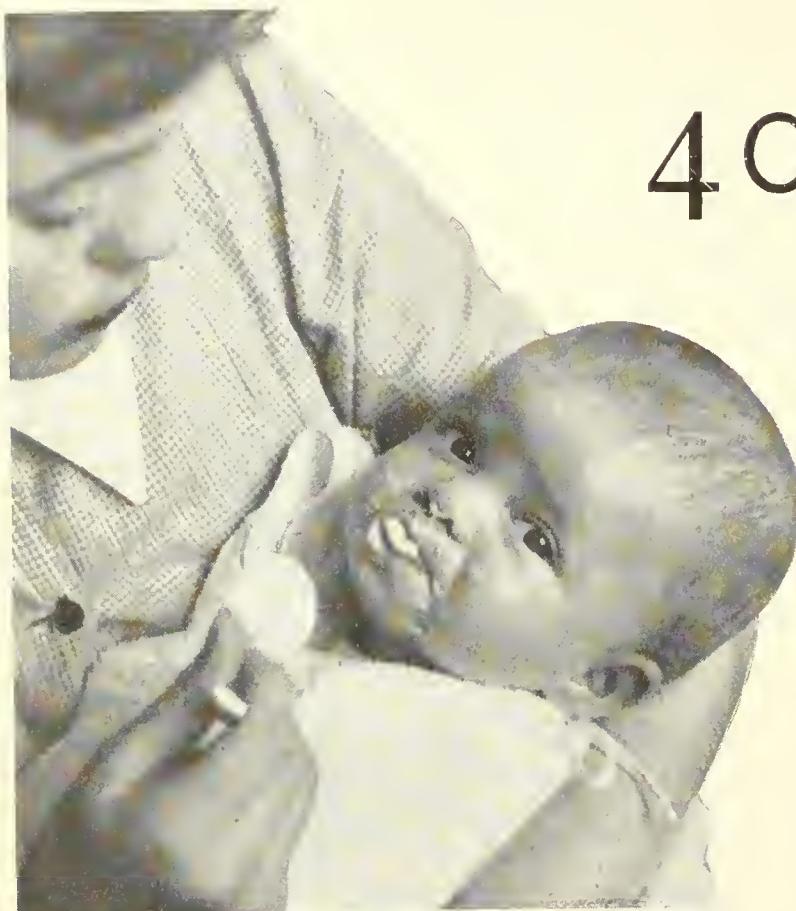
The rooms are illuminated by "ordinary" windows rather than curtain walling or other similar devices. That allows for greater shelving in the rooms and avoids over-glazing that may be unsuited to the climate of the Republic of Ireland. Broad expanses of glass are, however, used in (a) the laboratory block, to give the necessary large amount of uniform north-east light; (b) the restaurant and students' common rooms because of their aspect and function; and (c) the entrance and circulation landings to give a vertical contrast to the comparatively solid horizontal face.

A reinforced concrete framed structure is used throughout, except for the assembly block, where the floor of the assembly hall is cantilevered 2 ft. beyond the 3 x 1 ft. piers of the restaurant on the ground floor. The vertical columns are set at 10½-in. c/c intervals to suit the accommodation requirements of the laboratory block, as well as for convenience in splitting the span for smaller units, e.g., toilets. All upper floors are of bond-rib construction, to reduce the number of false ceilings necessary to accommodate the ducts for the services. The ground floors are of "sandwich" construction. All roofs are of copper-pitched construction, with splays varying from 10° to 15°, except for the gymnasium block, which is flat, and similar in construction to the upper floors.

Antecedents

The building at present used by the Pharmaceutical Society of Ireland as its college of pharmacy, while affording greater facilities than those of the previous building in Mount Street, is still inadequate for future requirements. It was a large dwelling house that was converted and is still being enlarged. The present college was thus not designed for its present purpose, and caters only for the bare essentials of the students' educational requirements while affording them only limited cultural and no outdoor recreational facilities. The need for a new college is, therefore, readily appreciated.

The actual research carried out by the author in preparing his thesis and plans was mainly in the nature of discussions with the interested authorities.



4000 years of infant feeding

N. W. HUTCHINGS

AMOTHER who, for any reason or other, has been unable to produce breast milk or has not wanted to breast feed her baby herself, has always faced a problem in the feeding of the infant.

Too apt to be looked upon as a product of the modern age, that situation existed in early times precisely as it does today, as is borne out by archaeologists' discoveries of feeding bottles buried with infants. Specimens of such vessels from ancient Egypt are rare, but many Roman and Greek feeding bottles have been unearthed. The earliest exhibit in the British Museum, a feeder found at Phoenikia in Cyprus, dates back to 1900 years before the birth of Christ. Decorated in the typical Cypriot fashion of the period, it is $3\frac{1}{2}$ in. high and has a handle and a simple spout through which the milk was sucked.

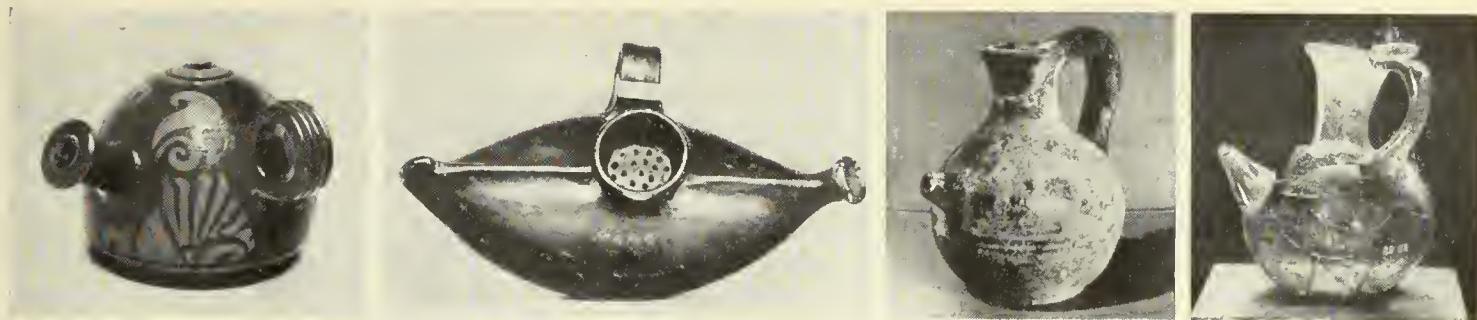
In pre-Hippocratic days (that is before 400 B.C.) it was regarded as allowable, as a matter of family economics, to expose any unwanted child to death if for any reason it could not be provided for. In Sparta, as is well known, any child that was puny or deformed suffered the same fate. Maternal nursing was the rule in the days of Homer (that is, around 950 B.C.) but in later times, when the power of Athens was at its height, wet-nursing by Spartan women or

slaves became a common practice. The custom was at first confined to the rich, but eventually became almost universal. In Lacedæmia it was a general rule that the mother nursed her infant for the first year, and afterwards a nurse fed the child a sort of broth made from pulses sweetened with honey, barley porridge and goat's milk cheeses.

Writing about the Hellenised ladies of the Ptolemaic period (second century A.D.), Fielding Hudson Garrison (1870-1935) said that they seldom nursed their own children. A mother would enter into a definite contract with a slave woman, who would undertake, for a stipulated sum and the child's keep, to nourish the child on milk up to its third year. During the first six months the nurse would engage to feed the baby herself, and for the next eighteen months to nourish it artificially on cows' milk. There was a regular and daily delivery of the best cows' milk ("in a pitcher of eighteen cotolytes' capacity"), and unpunctual delivery was severely punished, though on legal rather than hygienic grounds. The wet nurse continued to hold an important place from the years of Hippocrates (460-337 B.C.) through the ages of Galen (130-200 A.D.), of Soranus of Ephesus, who lived in the second century, A.D., of Oribasius (325-403 A.D.), of Paulus Aegineta (625-690 A.D.), all of whom



1. The British Museum's earliest example of a feeding cup. Found at Phoenikia, Cyprus. Height $3\frac{1}{2}$ in. 19th-18th century B.C.
2. A Mycenaean feeding bottle found at Lalyssos, Rhodes. Height $5\frac{1}{2}$ in. About 1400 B.C. British Museum. The vertical handle over the mouth of the vase persisted for a thousand years.
3. Small spouted vessel almost certainly used for the feeding of infants. Attic period (5th century B.C.). Wellcome Historical Medical Museum.
4. Feeding cup of South-Italian Greek origin. 4th-3rd century B.C. Wellcome Historical Medical Museum.



5. Roman biberon of suggested South-Italian Greek origin. Terra cotta and black. Second half of 4th century B.C. Wellcome Historical Medical Museum. 6. Black terra cotta feeder. Italiote (from one of the Greek colonies of South Italy or Sicily). Found at Nola. Length 6½ in. British Museum. 7. Infant feeding bottle of cream/buff ware found in London. 3rd-4th century A.D. Guildhall Museum, London. 8. Glass feeding bottle for a Roman infant of the first or second century, A.D. Found at Colchester. Colchester and Essex Museum, Colchester Castle.



9. Rough buff ware spouted vessel of Roman origin, possibly 2nd century A.D. Certainly used for infant feeding. Wellcome Historical Medical Museum. 10. Infant feeding bottle in red Samian ware. Second half of 2nd century, A.D. Found in a Roman grave located in Blatch Square, Colchester. Colchester and Essex Museum. 11. Bavarian feeding bottle of pewter. About 5½ in. high. 17th-18th century. Wellcome Historical Medical Museum. 12. Pewter feeding bottle, flask-shaped. English, 18th century. Wellcome Historical Medical Museum. 13. Feeding bottle in glass, with etched decoration. Pewter tract. 18th century. Wellcome Collection.



14. Pewter "bubby pot." English. Late 18th century. Wellcome Historical Medical Museum. 15. Infant feeding bottle in Staffordshire white glazed earthenware. Early 19th century. Guildhall Museum, London. 16. English feeding bottle in glass. A modified form of the boat-shaped feeder. Circa 1860. Wellcome Historical Medical Museum.

contributed in some degree to the subject of paediatrics by their writings, and right down to the Renaissance period.

The first and important writings in English on the subject came from the pen of Thomas Thayer (1510-60), who also mentions the uses of the wet nurse, warning his readers against employing one whose milk was "evil." In France, in 1565, Simon de Vallambert, in the first French treatise on the subject, recommended feeding cows' or goats' milk through a horn after the third month of the infant's life. He deplored the then current custom by which the nurse chewed the food before feeding it to the child. During the eighteenth century, especially in the first half, the wet nurses of England flourished extremely. It is on record that they could earn up to £7 a quarter—for those days an extremely large sum when it is considered that the average serving girl received something of the order of £3 a year. One can speculate upon the thoughts that went on inside the heads of young girls, leading them to conclude that pregnancy was their only way to relative prosperity.

Perhaps that may be counted among the reasons why, in the eighteenth century, the infant mortality in Britain was as high as ever previously known in any part of the world or has been recorded since. The London Bills of

Mortality, the earliest forms of death registration (they were started by Henry VIII) for the period 1730-49, showed that



17. Upright feeding flask in pewter, 1750 period, and pewter bubbly-pot of around 1780. Inset: Hall-marked silver nipple shields (1751) and feeding tubes (1800).



18. Spode feeding bottles, late 18th century.



20. "Pap boats" in Leeds ware (circa 1800) and "Copeland late Spode" ware (1833).

upwards of 75 per cent. of all children born died in infancy. That shocking rate declined only slowly during the next hundred years, and within that period gastro-enteritis remained the commonest cause of all infant deaths, as indeed it was until 1910.

A Perennial Problem

During all the centuries, each successive generation of parents has been faced with the problem of devising a suitable vessel to cope with the problem of getting the food into the infant's mouth with a minimum of spillage. A spout, however crude or fragile, was always a basic element in such a vessel. The earliest example in the British Museum (illustration 1) dates back to the nineteenth century B.C. and came from Cyprus. In a Rhodian vessel of the Mycenaean period (illustration 2), the vertical handle over the mouth of the vessel is of a type common in Mycenaean feeding vessels. It persisted in certain of the later Cypriot varieties, but was superseded in Greece by a handle on the side of the vessel. The Victoria and Albert and the Wellcome Historical Medical museums each possess Cypriot feeding cups of the early Iron Age. Other examples in the Wellcome Museum



21. Glass infant feeding bottles dated 1840 and 1860. The one on the left has a wooden stopper.

are a small spouted vessel of the Attic period (illustration 3); a feeding cup of South-Italian Greek origin (illustration 4), and a Roman biberon in terra cotta and black dating from about the second half of the fourth century B.C. (illustration 5). The last-named is of special interest because it



22. A handled and spouted glass feeding cup dated 1860 approximately.

was filled through a spout which came up from the centre of the lower part of the interior of the vessel, making it comparable with an unspillable inkwell. Also from one of the Greek colonies in the South of Italy comes the feeder in black terra cotta (illustration 6) on whose side is scratched the word "mamo," possibly connected with the Greek word *Māmuη* which is explained by the lexicographer as being the child's word for "mother" or "breast." In the Guildhall Museum, London, is an infant feeding-bottle (illustration 7) of cream/buff ware (soft white slip) with decoration in red paint. It was found in London and dates from the

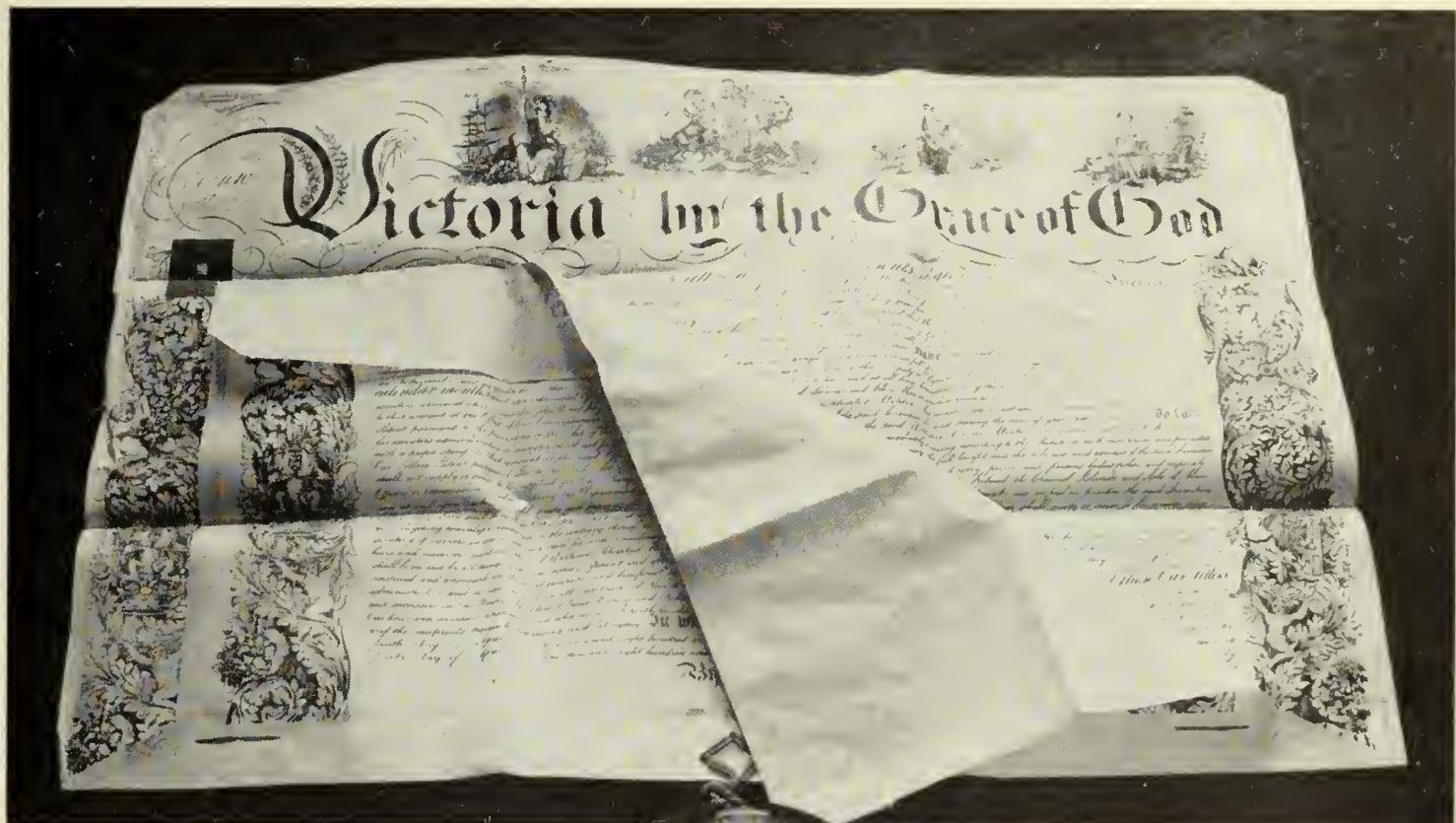


23. Original patent feeding bottle of Captain Webber, 1867, with leather-bound box holding the Letters Patent.

third or fourth century A.D. A noteworthy feature of a Roman feeding bottle found at Colchester in 1898 (illustration 8) is that it is made of glass. The Romans used glass during the first and second centuries A.D., but later discarded it for rough buff or Samian ware (see illustration 9). At one time it was thought that the glass vessels were used solely for the filling of oil lamps, but in view of the fact that they



24. Thermo-safeguard bottle of Burroughs Wellcome & Co., 1890.



were found in children's burial places, and that traces of casein have, by chemical analysis, been found in them, it is certainly established that they were used additionally if not exclusively for the purpose of infant feeding. One of the feeding bottles of red Samian ware (illustration 10) was found in a Roman grave located in Blatch Square, Colchester. Dating to the second half of the second century A.D., its fabric suggests an origin in Central rather than Eastern Gaul, and it has the added fascination that the marks of the potter's fingers, where he held it to dip it in the glaze, are still clearly to be seen on the base. The museum in Colchester possesses about eleven other examples of Roman rough buff or Samian ware.

From the period from the Roman occupation (400 A.D.) to the sixteenth century, there do not appear to remain any examples of feeding bottles, but it is known that a cow's horn was often adapted for the purpose. However the Elizabethans were interested in anything that came from the Continent, and particularly from Italy, and it is probable that the first specifically manufactured feeding bottles of the period came from that country. The earliest types were shaped rather like an upright bottle with a small vertical spout, and were usually made of wood or of pressed leather. The earliest known portrait of an English child with its feeding bottle is dated 1593. It shows the infant, fifteen weeks old, dressed in what would today be considered adult clothes of the period, holding its feeding bottle made of wood.



Letters Patent granted to Captain Webber, 1867, for an infant feeding bottle incorporating a thermometer.

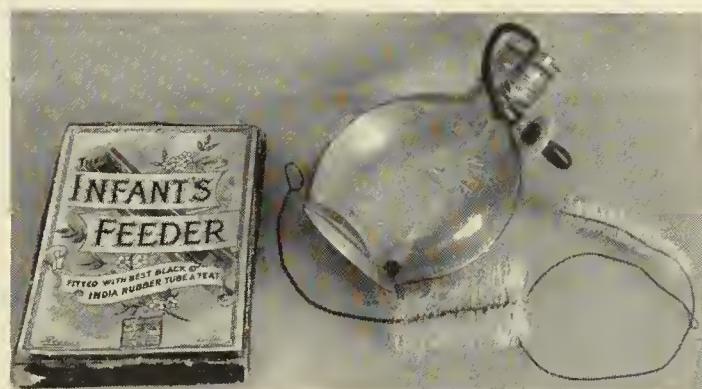
Pewter Takes Over

In the next two centuries pewter took the place of other materials as the material most suitable for all sorts of domestic articles, including infant feeding bottles, which followed a fairly definite pattern throughout those years. An example is that of the Bavarian bottle (illustration 11), in which the bottle is shaped like a salt pot, with screw-top taking a straight nipple. An English bottle of about 1750 (illustration 12) is in the shape of a round flat-bottomed flask with screw-on top terminating in a pewter nipple. Pewter feeding bottles of Continental and French design are among other examples in the Wellcome museum.

An upright feeding bottle (illustration 13) in the Wellcome collection has a glass container with etched decoration, with top and nipple of pewter.

The bubbly pot, of which an example in pewter is shown (illustration 14), dates from 1777, when it was invented by Dr. Hugh Smith. It is on record that Dr. Michael Underwood recommended the use of such a pot in 1784. Smith based his design on the shape

of the then contemporary gravy pot, and suggested it should be made in "Queen's ware." Josiah Wedgwood, the creator of that material, had in 1765 named it as an act of homage to Queen Charlotte, who had become his patron. Cheaper to produce than china, it became available to the middle and lower classes, who previously had used pewter or wooden utensils. An excellent example of a "Queen's ware" bubbly pot exists at Colchester.



25. "Infant's Companion Feeder," 1900, with long black rubber tube and teat. The carton carries the trade name "Regnas."



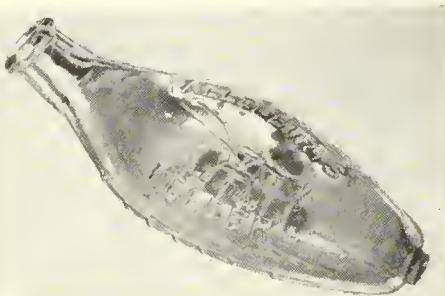
26. Rubber teat for infant with cleft palate (circa 1860).

White glazed earthenware was the material of a Staffordshire-made feeding bottle (illustration 15) of the early 19th century now in the Guildhall Museum. A feeding cup of basically similar design but translated into glass (illustration 16) has a drawn-out spout that curves most gracefully from the bowl of the feeder.

Of the two pewter infant feeding vessels (illustration 17) in the author's collection, the flask type is of the 1750 period, and the other a bubbly pot from approximately 1780. Dr. Drake of Toronto, Canada, has in his collection a Queen's ware bubbly pot, together with a beautiful example in silver dated 1783. Bubbly pots were, at the early stage, made in pewter; later on in the 1800's they were made of Staffordshire or Leeds pottery.

Contemporaneous with the first of the two here shown

27. First infant feeding bottle incorporating a teat and valve: the "Allenbury's feeder" (about 1900).



28. (below) The "Wembury" feeder (1900-20).



are the silver nipple shields inset in the illustration. They are hallmarked, as are also the infant feeding tubes photographed with them, which were made half a century later (in 1800).

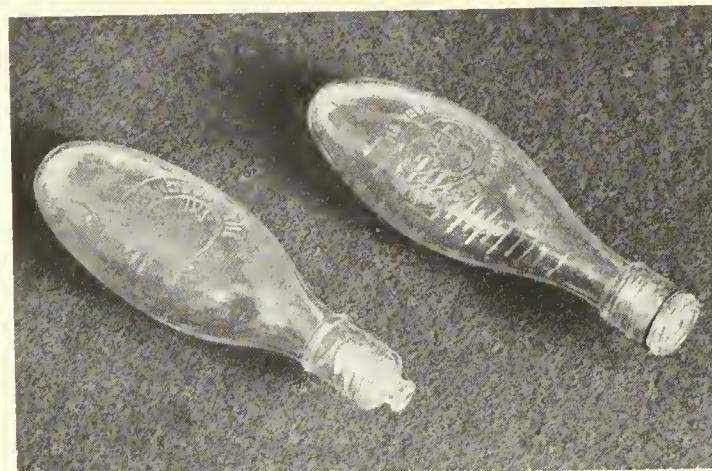
The writer takes a special delight in two spode pottery feeding bottles, one marked and incised "Spode" (illustration 18). The unmarked one could date from 1790. The marked one is of even earlier date. Two other examples of pottery infant feeding vessels are shown in illustration 19. The one at the left is of Staffordshire ware (c. 1800-40), the upright one a Leeds-ware bubbly pot dated approximately 1800-20. A different type of infant feeding vessel in pottery was the "pap boat," of which two examples are illustrated (illustration 20). The plain one is of Leeds ware (c. 1800) and the other marked, "Cope-land late Spode," is dated 1833.

Later in the 19th century pottery gave place to glass as the material for infant feeding bottles. The two glass bottles in illustration 21 date from 1840 and 1860; the earlier one has a wooden stopper. A glass feeding cup dated 1860 approximately (illustration 22) seems either a late flowering of the bubbly pot or an early adaptation of a feeder to take a rubber teat.

Patented Temperature Control

A new orientation was given to feeding bottles in 1867, when Captain Webber was granted Letters Patent for his invention of an infant feeding bottle which had a thermometer embedded in the glass in order to keep a check on the temperature of the contents. The Letters Patent, a magnificent double parchment with seal attached, is reproduced at the head of page 717. Webber's original bottle, together with the leather-bound box in which are kept the Letters Patent (illustration 23), is in the writer's possession.

The Thermo-safeguard feeding bottle (illustration 24) manufactured by Burroughs Wellcome & Co., London, and dated 1890 (patentees P.K. & Co.), also incorporates a thermometer embedded in the glass, and was an improvement on the invention of Captain Webber. Although such craftsmanlike and convenient pieces could not survive when the era of sterilisation arrived, an infant feeding bottle of around 1900 called "The Infant's Companion Feeder" (illustration 25) is of essentially the same pattern. Its novel



29. Single-ended glass feeding bottles of the period 1900-20. The one on the left is by "D. & Co." and the other by "S. Maw, Son & Sons, London."

feature is its long rubber tube and teat in "best black India rubber." The word "Regnas" in the bottom left-hand corner of the box cover will be readily deciphered as the reverse of a name still prominent in the wholesale distribution of druggists' sundries. Below it on the page, though earlier by forty years in date, is a rubber teat of unusual design. Alongside the normal teat ran a thick hard piece of rubber which acted as a palate for infants with hare lip. Rubber teats did not come into use until the 1840's, and indeed made little headway before the Great Exhibition of 1851. They were first patented in America in 1845, and until 1864 the nipple or teat was attached direct to the bottle. On April 19, 1864, a patent was taken out for a long, flexible sucking tube to be interposed between the flask and the nipple. A large breast-shaped nipple was patented in 1894, and the teat and valve system came in in 1900. Before 1845 all sorts of materials had been used to simulate the human nipple. Possibly in Roman times, and certainly later, fine cloth was fashioned into the appropriate form and size. In the 16th to early 19th centuries a commonly used nipple was made of pieces of parchment about $1\frac{1}{2}$ in. long, sewn together. A piece of marine sponge was pushed inside, and the infant sucked through the stiches. Other materials were ivory (natural or decalcified), wood, cork, silver, and even cows' udders pickled in spirit.

First Teat and Valve

The first infant feeding bottle incorporating a teat and valve appeared about 1900. It was the "Allenbury's feeder" (illustration 27). An infant feeding bottle of the period 1900-20, but really a survival of an older form, was the Wembury (illustration 28). The last two pieces of the collection to be illustrated (illustration 29) are also of the period 1900-20. One, "The Felix," was manufactured by "D & Co.", the other by "S. Maw, Son & Sons, London."

The feeding-bottle currently in vogue has a teat but no valve, is vertical and in section often hexagonal, and has a flat base so that it can, if of glass, stand in a frame for convenient insertion in an oven for purposes of sterilisation. Bottles of similar shape are available in plastic materials such as nylon (sterilised by boiling) and polythene (sterilised with hypochlorite).

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PLAQUE

Some historic reminders and some personal recollections

F. M. W. HARRISON, M.P.S.

WHEN I read recently, in a World Health Organisation Weekly Epidemiological Record that the number of cases of plague recorded in 1957 was, at 514, the lowest since the beginning of the century, my mind, contrariwise, turned first to the Derbyshire village of Eyam. I say "contrariwise" for Eyam's historical concern was



Cottages at Eyam, Derbyshire, at which began in 1665-66 an outbreak of plague that raged for months and took a heavy toll of lives.

not with a comparative absence but with an experience of the Great Plague as bitter as that of any other place in the country.

In the autumn of the year 1665 the mail coach from London brought to Eyam a box of fine London cloth for George Vicars the tailor. Vicars lodged with the widow Cooper in a small cottage, one of a group that still stands near the church, and that evening, for the admiration of the widow and her neighbours, he opened his box and spread out his new cloth. But the London consignment had brought the infection with it, and within a few days Vicars was dead. By the following month twenty-three more people in the village had followed him to the grave and, as the months passed so the plague spread. In a sad story there is a pattern of heroism, for the Rector, the young Rev. William Mompesson, persuaded the villagers to stay in the village and face the danger so as not to carry infection to neighbouring villages and towns. Mompesson and his young wife remained among their parishioners and ministered to their spiritual and physical needs. The record in the village church shows a mounting toll of deaths rising, when summer returned, to a peak during the months of July and August. Eyam abounds in stories of its year of trial. The Morton family lived in an isolated farm—father, mother and three children. Within two days only the father remained. He carved the names of his lost family on the beam of his farmhouse, where they may still be seen. On a hill outside the village in the middle of a field seven gravestones mark the resting place of the Hancock family, of whom only the mother remained alive. She herself dug five of the graves.

As my family and I wandered not long ago through that attractive little village we recalled our own experience of bubonic plague ten years ago, in the land where the inci-

dence of plague was happily so low last year as to be the main factor in the record low figure in the W.H.O. return: India. A letter I wrote from Calcutta on April 26, 1948, reads "About the middle of March a patient was admitted to one of the hospitals, and plague was suspected. During the night he absconded, with the result that a week or two later other cases were discovered, and in the middle of last week the city woke up to find that five cases had appeared in one day. The next day there were six more, and the next day twelve, and for the past three days there have been twenty-four a day. A temporary hospital is being erected on the outskirts of the city, but there is a shortage of medical supplies for large-scale treatment, a shortage of lime to keep away the rats, but fortunately not a shortage of vaccine." Day after day the infection spread, and in the newspapers the number of reported cases and the number of deaths that had occurred was front-page news each day.

Memories that Caused Alarm

Plague is endemic in many Eastern cities but a long time had elapsed since it had broken out in epidemic form in Calcutta. The older people, with memories of earlier epidemics, began to be alarmed. Bannerjee, the middle-aged clerk in my office, retailed distressing stories his father had told him of the epidemic of 1905, when over a million succumbed. My staff expected advice from me as a pharmacist as to the precautions they should take to avoid the disease, though in truth there was little I could add to the advice the city health authorities were widely publicising: "Keep away from the infected areas"—advice that was not so easy to follow as the most seriously infected area was only just across the street. "Sprinkle chloride of lime round the drains and round any hole through which rats might approach your house," and "oh! it might be a good idea to sprinkle insect powder inside your clothes and especially round your legs to cope with any infected fleas which might transfer themselves to your person." With the usual Bengali footwear of sandals over bare feet, to sprinkle the legs might not be very effective either. Still, we must do something. That evening a good deal of insect powder found its way down the necks of clerical shirts and into the folds of



The tomb of a plague victim—one of the Hancock family—in a field near Eyam.

"dhoties" before we closed for the day, and the tin of chloride of lime I took home made our own house smell for the next few days like an over-chlorinated swimming bath.

The municipality (*anglicé*—city council) obtained anti-plague serum by the gallon, and injections could be obtained for the asking at almost every street corner. At the Mission School next door the nurse obtained a supply of serum for the scholars and put her head round the dining-room door (home life is very public in Bengal), and invited us to partake of her treasure. My wife and I each picked up a child, our two-year-old son and three-year-old daughter and walked across to the school house. As her arm was being sterilised the three-year-old announced proudly "I don't cry." She was quite accustomed to prophylactic inoculations. She had already had ten in her young life and expected a scratch such as she received at her annual vaccination or a half-c.c. as when she received her T.A.B. inoculation. When a full 10-c.c. of a viscous serum was injected ("and there's another injection next week") her lips quivered . . . It was too much for a three-year-old to meet with a smile. An old Mohammedan "derzi" (tailor) was sitting on the veranda with the sewing machine. He used to come round periodically for a few days' work and was the delight of the housewife's hearts. He would do the finicky needlework they like least, such as turning cuffs and collars and the more awkward repairs. "Would you like to take the injection?" my wife asked of him. No, he thanked the memsahib profoundly for her kindness but he would prefer to trust in Allah.

The month was May, the hottest, weariest month of the Indian summer, when the thermometer hovers between 100° and 110° and the curtains hang motionless in the windows. The rains were five weeks away and the shadow of the epidemic seemed to hang over the city like an oppressive cloud. From Howrah across the Hooghly, which is to Calcutta as Salford is to Manchester, there came news of a number of cases of plague in the pneumonic form—highly contagious and rapidly fatal. It seemed inevitable that it should spread, and yet mercifully it did not. For there was no effective treatment, and no reliable prophylactic. I have a vivid recollection of taking the family to the Horticultural Gardens in the suburb of Alipur one Saturday afternoon at that period. The atmosphere was humid, as it always is on the Ganges delta. The gol-mohur trees were covered with their flaming red flowers, the yellow laburnum was in bloom, and the white frangipani spread its heavy perfume. I have a colour film taken that day, and it all looks very beautiful, yet uppermost in my memory of that day is the oppressive heat and the consciousness of "plague in the city."

Taken Seriously

In lighter relief is my memory of the morning I went to the office and was informed that there was a dead rat in the warehouse. I had given instructions that I should be informed if dead rats were found on the premises. Rats found dead outside their holes might have died of plague and there might, of course, be infected fleas leaving them and seeking other hosts. The rat had been lying there an hour or two before the news reached me. I had been "engaged" during that period, and Indian courtesy forbade that I should be interrupted. So seriously had my instructions been taken that no-one would go near the body. I sprayed it profusely with insecticide from a respectful distance, and made arrangements for the cremation. A little later it occurred to me to make inquiries about the men who had carried out the latter operation, whether they had taken precautions against infection. "Oh, yes," said Bhattacharya, the assistant manager, with a wry smile. "they've gone to bathe in the holy Ganges."



Almost deserted, the Indian town in which an outbreak of plague has occurred bears at the roadside the grim instruction: "Plague in this town. Military vehicles will not halt."

Happily the epidemic was already abating. It had been on a much smaller scale than some of the visitations of the past, and the death rate had been lower. In the city hospitals experiments were carried out with some of the newer drugs—the sulphonamides and the antibiotics—with results that seemed to be encouraging. By July it had ceased to be an epidemic. But it was fire that finally defeated the disease as was the case three centuries ago in London. It may have been water, for in the middle of June the monsoon rains broke. Day after day the rain poured down, several inches a day, flooding the roads and filling the sewers. It washed the streets of their filth, brought down the temperature and perhaps drowned the rats (or some of them), and washed away any lingering infection that remained.

A PHARMACIST'S ANTHOLOGY RICH MAN'S PLASTER

From *Japhet in Search of a Father*, by Captain Marryat
AN Irish labourer, more than half-t tipsy, came in one evening and asked whether we had such a thing as was called "a poor man's plaster." "By the powers, it will be a poor man's plaster when it belongs to me; but they tell me that it is a sure and sartain cure for the thumbago, as they call it, which I've at the small of the back . . . so as it's Saturday night, and I've just got the money, I'll buy the plaster first, and then try what a little whisky inside will do. The devil is in it if it won't be driven out of me between the two." We had not that plaster in the shop, but we had blister plasters, and Timothy handing one to me, I proffered it to him. "And what may you be asking for the same?" inquired he. The blisters were sold at a shilling each, when spread on paper, so I asked him eighteen-pence, that we might pocket the extra sixpence. "By the powers, one would think that you had made a mistake, and handed me a rich man's plaster instead of a poor one's. It's less whisky I'll have to drink, anyhow; but here's the money, and the top of the morning to ye, seeing how it's jist getting late." Timothy and I laughed as we divided the sixpence. It appeared that, after taking his allowance of whisky, the poor fellow fixed the plaster on his back and went to bed, and the next morning found himself in a condition not to be envied. It was a week before we saw him again, and, much to the horror of Timothy and myself, he walked into the shop when Mr. Brooks was employed behind the counter. Timothy perceived him before he saw us, and pulling me behind a large mortar, we contrived to make our escape into the back parlour, the door of which we held ajar to hear what took place. "Murder and turf," cried the man, "but that was the devil's own plaster you gave me for my back, and it left me as raw as a turnip. . . ." "I . . . do not recollect supplying you with a plaster, my good man," replied Mr. Brookes. "Then by the piper that played before Moses, if you don't recollect it, I've an idea that I shall never forget it. Sure enough, it cured me, but wasn't I quite kilt before I was cured?" "It must have been some other shop," observed Mr. Brookes. "You made a mistake." "Devil a bit of a mistake, except in selling me the plaster. Didn't I get it of a lad in this same shop?" "Nobody sells things out of this shop without my knowledge." The Irishman was puzzled—he looked around the shop. "Well, then, if this ain't the shop, it was own sister to it." When the Irishman departed, we made our appearance. "Japhet, did you sell a plaster to an Irishman?" "Yes. . . . He asked for a plaster, but he was very tipsy. I showed him a blister, and he took it." . . . "You must not play such tricks," said Mr. Brookes.

EUROPE AS A MARKET FOR PHARMACEUTICALS

Though taking only 7 per cent of Britain's drug exports in 1957, the Common Market countries (France, Belgium, Luxembourg, Holland, West Germany and Italy) should afford exciting new possibilities for the British pharmaceutical industry, particularly if the proposed Free Trade area is established.

In six months' time the trade barriers between six European countries are due to fall. Those countries (France, Belgium, Luxembourg, Holland, West Germany and Italy), in signing a treaty in Rome about fifteen months ago, agreed to establish the European Economic Community, more frequently referred to as the Common Market. The principal aims of agreement are to abolish tariffs and other existing restrictions on trade between member countries and to establish a common external tariff with countries outside the community.

The reduction in tariffs is to be achieved by stages over a period of twelve to fifteen years. In the first four years (minimum) a reduction of at least 25 per cent. on the present tariff rates should have taken place, of which 10 per cent. is expected to be made within the first twelve months. So far as the establishment of a common external tariff is concerned, the rate to be established for any particular item is to be arithmetically averaged on existing rates levied by the participating countries. The present high tariffs of France and Italy should, therefore, fall a little, but the new scheme will give more protection to the Benelux countries and Germany, which have low and medium tariffs respectively. British exporters to each of the six countries will have to face not only those barriers but also increased competition from the countries within the Common Market, all of which will have a more-favoured tariff structure and will eventually be completely free of tariffs.

With that threat to British trade before it, the British Government began looking for a way in which the United Kingdom could be linked with the Common Market without jeopardising its existing commitments to the British Commonwealth and Colonies. In consultation with other countries within the Organisation for European Economic Co-operation, and with the approval of the Commonwealth, it was decided to form a Free Trade Area consisting of the Common Market countries plus the United Kingdom, Norway, Sweden, Denmark, Austria and Switzerland. Free Trade Area countries would abolish tariffs along the lines of the Common Market but would be free to impose their own tariff rates on non-participating countries.

French Opposition

As France has strongly opposed some of the British suggestions, and has caused delay in getting the Free Trade Area proposals into a form acceptable to the various governments, it is thought unlikely that the Free Trade Area, if or when formed, will be able to go into operation at the same time as the Common Market (on January 1, 1959) as had been hoped, unless it were decided to cut tariffs at once and continue talking afterwards. Unless that comes about British manufacturers of pharmaceuticals, in common with other manufacturers, are going to be at an increasing price disadvantage in the six countries of the Common Market.

Of the £39·6 millions' worth of prepared drugs and medicines shipped overseas by the United Kingdom in 1957, the Common Market countries accounted for £2·8 millions, or just over 7 per cent. Belgium (including Luxembourg) was the best customer, her imports from the United Kingdom being valued at £927,000. Italy came next with £633,000; France with £556,000; Holland with £424,000; and West Germany last with £297,000. Certain organic and inorganic

pharmaceutical chemicals that provide a valuable export contribution are not included in those figures.

During the past two months France has been passing through critical days and her attentions have necessarily been occupied by matters other than those connected with the Common Market. In her present economic difficulties it is hard to conceive that she will wish to expose her industries to the blast of foreign competition by lowering the present tariffs in January next as the Rome treaty laid down. A European Economic Union without France is scarcely conceivable and therefore it is expected in some quarters that the date for lowering tariffs will be postponed. Such a position may well be influenced by the current trading conditions, which are considerably less robust than at the time the Union was mooted.

Unsolved Problems

If there is any postponement then the wider F.T.A. scheme will be given a breathing space to solve some of the problems on which opinion is divided as, for example, the amount, if any, of duty that should be levied on chemicals and/or pharmaceuticals processed within the area from raw materials or ingredients imported from non-participating countries. Whereas certain countries have tended to insist on a strict definition of origin to ensure that only goods made and processed within the area are given area tariff treatment other countries which depend upon supplies of raw materials from outside the area favour a more liberal approach.

The Board of Trade has made the suggestion that goods should qualify for tariff treatment if the area content amounted to 50 per cent. or more of the f.o.b. price (certain listed basic raw materials being allowed to account towards the area content when imported from outside). An alternative which most countries have agreed should be available (at the exporters' option) as well as the percentage basis is the qualifying process under which goods should be granted area tariff treatment if a specific process has been carried out in the area. From the annual report of the Association of British Pharmaceutical Industry 1957/58 it would appear that British manufacturers, while accepting the possibility of the process criteria for a limited number of products given in chapter 30*, it is not possible to define adequately any process criteria for the most important section of the chapter (30·03) that is, formulated medicines put up in dosage form. The majority believe that pharmaceutical processes such as tabletting, ampouling, suspensions, etc., should not in themselves incur F.T.A. status.

That is only one problem of one section of one industry that should be settled before the Free Trade Area comes into being. Other industries and other countries have their problems also but none of such problems should be exaggerated. The essential point to remember is that a Free Trade Area, linked to the Common Market with the prime objective of gradually abolishing tariffs, has been agreed between the countries concerned as a necessity. It is surely a target worth seeking. The alternative for Britain is to be squeezed out of Continental markets. Facts and figures concerning the pharmaceutical market in France, Belgium, Holland, Italy and W. Germany are given on pages 722-26.

*Brussels Nomenclature.

FRANCE

The drug industry in France claims an annual turnover of some £120 millions. It is heavily concentrated, and small producers are responsible for only a relatively small part of total production. The number of persons employed in the industry has been estimated at 35,000 and whilst, before the 1939-45 war, France was a leading exporter of pharmaceuticals, it has fallen to fourteenth position.

The country's population was estimated at 43·8 millions in 1957. Under the French health scheme, which is administered by the *Ministère du Travail et de la Sécurité Sociale*, all employed persons have to register. Contribution payable by the employee is at the rate of 6 per cent. of his income, up to a ceiling of 528,000 francs per annum. The employer's contribution is at the rate of 10 per cent. of the employee's income. Contributions by a married man cover his family. Generally speaking reimbursement is up to 80 per cent. of the medical charges involved. The demand for medicinal preparations is met both from the home industry and from imports. Unlike Belgium, France does not engage in the practice of importing products in bulk and packing locally. The prices of pharmaceuticals imported from the United Kingdom were little different from those charged by British manufacturers, but may be a little higher now with the change in the value of the franc (from approximately 1,000 to 1,175 francs to the £1). Trade discounts on proprietary medicines are as follows:—Manufacturer to wholesaler, 12½ per cent.; wholesaler to retailer, 33½ per cent.; wholesaler to hospitals, 41½ per cent.; retailer to medical men, 14¾ per cent. A few manufacturers supply direct to retailers provided that the order is large enough (amounting to not less than £50, on which a supplementary discount ranging between 4 per cent. and 7 per cent. may be granted). Doctors registered in France at the end of 1956 numbered 42,179, and pharmacists 19,579.

Among the principal prepared medicines supplied by the United Kingdom to France during 1957 were hormones (£45,000), and liver extracts (£28,000). Sulphonamides in bulk were valued at £59,000 and chloroform at £27,000. France was a net exporter of antibiotics, to a total value of 2,276 million francs (imports 827 million francs). Two principal pharmaceutical manufacturers are Société Parisienne d'Expansion Chimique Specia (a division of Rhône-Poulenc) and U.C.L.A.F. (which owns Roussel Laboratories, Ltd.).

French Government poisons regulations are approximately the same as those in the United Kingdom. Registration of medicinal products is strictly controlled by a law introduced in 1941, under which each new product has to undergo satisfactory clinical trials before it is approved for domestic sale. The cost of the clinical trial may be anything up to 500,000 francs, while the cost of registration if the trial is satisfactory is 7,000 francs. Labels for proprietaries must bear the formula of the product, as in Britain.

Licences are required for the importation of pharmaceuticals, but quotas are not in force. Under regulations introduced in February 1953, price ceilings are fixed. Turnover is not limited but profits on sales are regulated.

Before an imported product is put on sale three visas are required; one for the product itself, another for the label describing the product, and a third for the leaflet that goes with the package.

CHAPTER 30 GOODS IN 1957

Country	French Exports '000 frs.	French Imports '000 frs.
United Kingdom ...	100,352	655,593
Belgium-Luxembourg ...	880,688	193,970
Italy ...	180,600	474,768
Netherlands ...	257,366	635,572
Switzerland ...	467,938	327,090
United States ...	14,980	177,888
West Germany ...	100,352	655,593

Brussels Chapter No.	France's overseas trade in pharmaceuticals, 1957	Exports '000 francs	Imports '000 francs
30·01	Organotherapeutic glands ...	64,548	319,328
30·02	Serums, vaccines ...	333,053	115,936
30·03	Medicines, human and veterinary ...	6,837,446	2,045,080
29·41	Glycosides ...	59,525	235,598
29·38	Vitamins and provitamins (total) ...	1,192,440	1,433,787
	Vitamin B ₁₂ ...	432,114	242,354
29·39	Hormones, natural and synthetic ...	2,326,986	210,546
29·36	Sulphonamides ...	471,126	561,657
29·36	Antibiotics (total) ...	2,275,622	826,762
	Penicillin ...	879,388	—
	Streptomycin ...	1,171,471	70,573
	Aureomycin ...	8,255	—
	Chloramphenicol ...	399	112,429
	Others ...	216,109	566,925
29·42	Alkaloids ...	383,681	655,705
	Caffeine and salts ...	180,056	2,805
33·01	Essential oils ...	7,619,400	4,988,108

The patent regulations in France are said to operate adversely against foreign suppliers of pharmaceuticals because only the process of manufacture may be patented, not the product itself. The trade-mark regulations are much the same as those in the United Kingdom.

BELGIUM

The Belgians have a high standard of living, and the country is one of the most densely populated countries in the world. The present population is 8·95 millions, more than half of whom are eligible for sickness and medical benefits. It may therefore be assumed that Belgian doctors will be called upon more and more to provide prescriptions, thus creating a growing demand for pharmaceuticals.

At the present time there are about 9,200 doctors in practice in Belgium and some 4,000 pharmacists. Pharmaceutical products are subject to price control, to compulsory batch analysis and to labelling requirements, and may only be sold retail by pharmacists. Sales, even of proprietary medicines or aspirins, are prohibited unless from pharmacies with a qualified person in charge. The retail price of an imported medicine may not exceed one and a half times its price in the country of origin.

Belgian doctors, because of their proximity to France and common language with that country, tend to read French medical journals. That may account for the fact that, a few years ago, about half the specialities prescribed were French products. But Belgium is unlike France in that a high percentage (70) of prescriptions call for proprietaries.

The Belgian pharmaceutical industry is largely a processing industry, and the greater part of the demand for drugs and medicines is met by foreign specialities generally imported in bulk and packed in Belgium or manufactured there under licence. There are now more than 30,000 pharmaceutical specialities on sale in Belgium, the majority of them of foreign origin. Customs duty on imported pharmaceutical preparations is at the rate of 12 per cent. *ad valorem*. If a product is put up ready for retail sale its duty is calculated on the retail selling price in Belgium, less 15 per cent. Products containing alcohol are subject to excise duty, and there is a transmission tax, generally at the rate of 5 per cent. *ad valorem*, levied at the time of importation on the duty-paid value. Licences are not required for pharmaceutical products except penicillin and certain products containing penicillin.

The Belgian pharmacist obtains his supplies almost exclusively through wholesalers. Some of the leading wholesalers in the trade, for example, Pharmacie Centrale de Belgique; Société Anonyme A. Christiaens; and L'Auxiliaire Pharmaceutique, S.A., also manufacture and trade as importers and representatives of foreign manufacturers.

The price-control regulations in force tend to handicap United Kingdom products, since medicines are relatively moderately priced in Britain, whereas similar products in most other countries are expensive.

Belgian pharmaceutical manufacturers and agents of the leading companies represented in Belgium have sales staffs calling on doctors, hospitals, etc., and, as in Germany, many of the representatives are qualified medical men.

In 1957 the total value of pharmaceuticals imported by Belgium was £13·36 millions. About half the imports from the United Kingdom were made up of antibiotics, of which, however, the United States was by far the largest supplier, the value of her exports being more than double that of the United Kingdom's. Holland provided the largest share of quinine, caffeine, the United States of vitamins (put up in dose form) and hormones. France supplied about a quarter (by value) of imported serums, vaccines, etc. On the export side the United Kingdom received from Belgium antibiotics valued at £410,964 (most probably re-exported material from the United States). Citric acid shipments to the United Kingdom were valued at £137,480.

HOLLAND

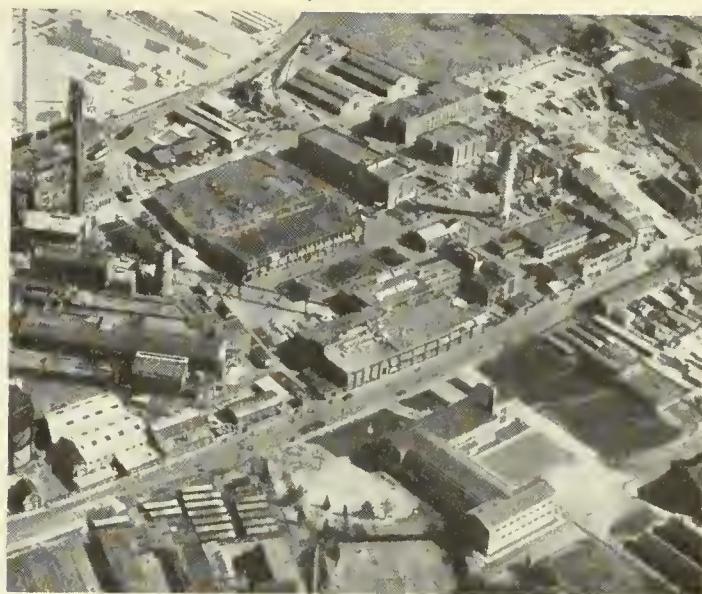
The demand for pharmaceuticals in Holland is also met both by home production and by imports. Home production is valued at approximately fl. 180 millions (fl. 10·60 = £1 sterling = fl. 10·60) of which approximately fl. 60 millions' worth is exported. In value, exports more than cover imports, which were at approximately fl. 21 millions in 1957.

There is no nationally administered health service, but employed persons earning less than fl. 6,900 (£650) a year must take out a health insurance. For others the insurance is voluntary.

The population of the Netherlands is nearly 11 millions. There are approximately 10,000 doctors, 790 pharmacies and 1,500 drug stores. A chemist making up a prescription containing narcotics must notify the names of the recipients to the police. Distribution of pharmaceuticals is almost exclusively through wholesalers, and only rarely does the manufacturer supply direct. Discounts are at the rate of 15 to 20 per cent. from manufacturer to wholesaler and at 33½ per cent. from wholesaler to pharmacist. There is a sales tax of 5 per cent. for the manufacturer and ½ per cent. for the wholesaler. A duty of 5 per cent. is levied on imported pharmaceuticals. A new Bill to be put before the Netherlands Parliament will, if passed, amend the existing regulations concerning the distribution of medicines which at the moment is governed by a law passed in 1865. Important manufacturers of chemicals and medicaments are Brocades of Amsterdam, Philips Roxane of Weesp, Organon N.V. of Oss, Amsterdamsche Chininefabriek of Amsterdam and the Nederlandse Gist en Spiritusfabriek of Delft, who manufacture penicillin. Ether is produced by the Chemische Fabriek Dr. Furnée in the Hague.

With the exception of the United Kingdom and the Commonwealth (which are supplied from the basic manufacture of Organon Laboratories, Ltd., in Scotland), N.V. Organon supplies the rest of the world from Holland and through its subsidiaries in Europe, the United States and South America. It manufactures a wide range of pharmaceutical products and is a large basic producer of insulin, trophic and steroid hormones and the corticosteroids.

The development of penicillin in Holland perhaps calls for a special word. During the German occupation a number of Dutch scientific workers formed themselves into a research group, which was able to develop its own antibiotic substance. Though apparently near to the new British penicillin it could not be compared with it at that time, all communications with the United Kingdom being completely severed. When liberation came a few phials of the British penicillin were included with contents of packages dropped from the air. The Dutch were quick to test it against their own discovery, which they found had the same characteristics. A small factory was built within the yeast and spirit



Aerial view of N.V. Organon's works at Oss, Holland.

organisation already existing at Delft, and in July 1946 the first Dutch penicillin was produced. A model factory now produces almost enough for domestic needs.

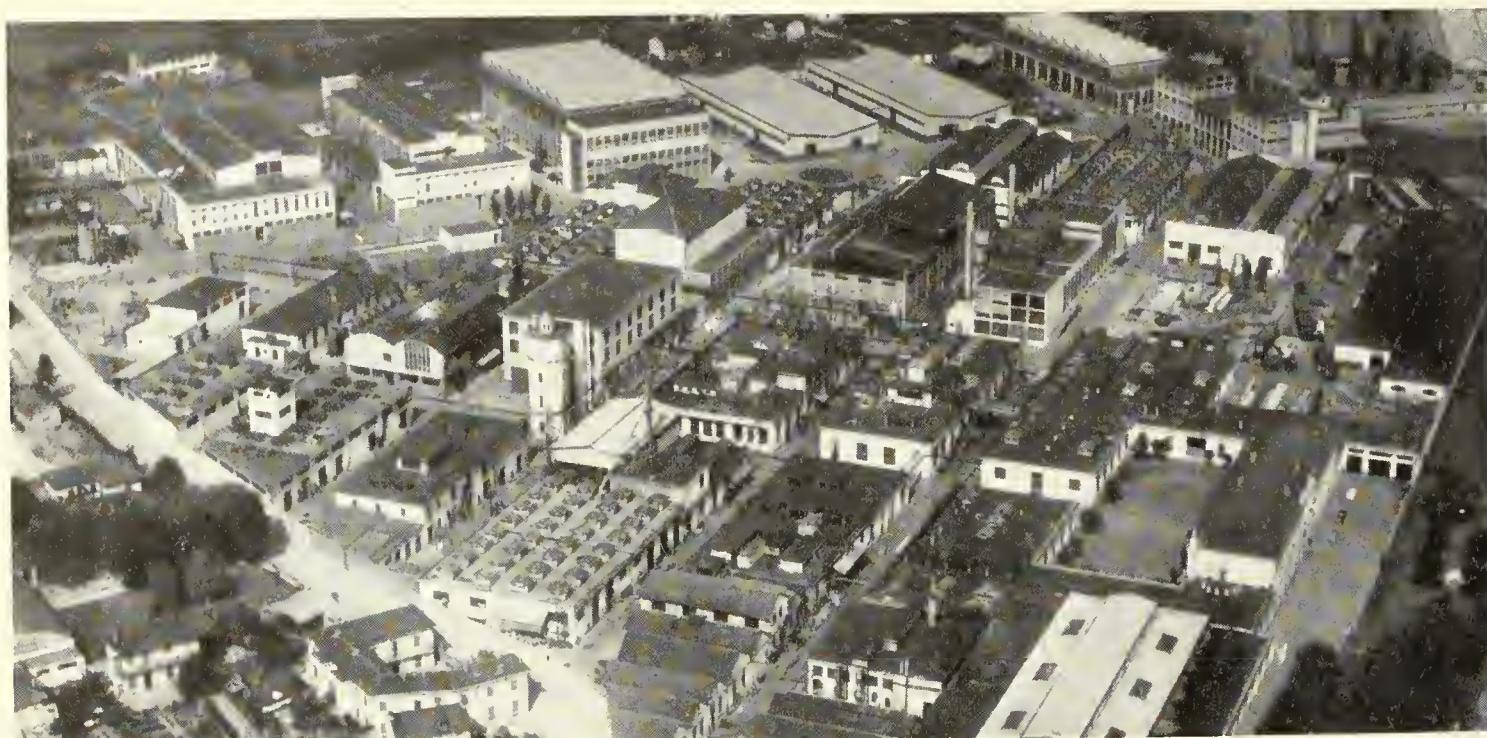
Imports of penicillin, its salts and compounds, into the Benelux countries are not liberalised. They are admitted under a Benelux global quota, the amount of which is fixed annually, the present figure (for 1958) being 2,000 milliard Oxford units. Penicillin once imported into the Benelux countries may circulate freely within the territories of the Union (i.e., Belgium, Luxembourg, Holland).

Other antibiotics come chiefly from the United States, and most *via* Belgium. Of the remaining pharmaceutical imports Switzerland and Belgium during 1957 each supplied over 21 per cent., West Germany 18 per cent., and the United Kingdom 10 per cent. Apart from antibiotics, Netherlands statistics give no such breakdown as those of its neighbours. During 1957 the United Kingdom supplied citric acid valued at £22,000, sulphonamides at £26,000 and aspirin at £21,118. It also supplied about one-tenth of the hormones imported into Holland, the United States supplying just over 40 per cent.

Penicillin		
Holland, 1957	Imports fl. '000	Exports fl. '000
Total	535	—
Belgium and Luxembourg	358	—
United Kingdom	87	—
France	11	—
Denmark	33	—
United States and Bermuda	37	—

Antibiotics other than penicillin packed and bulk		
Total	Imports	Exports
Total	3,610	2,239
Belgium and Luxembourg	2,403	621
United Kingdom	24	—
France	133	—
Denmark	178	—
Italy	122	—
United States	589	—

Other Pharmaceutical Preparations		
Total	Imports	Exports
Total	16,227	53,637
Belgium and Luxembourg	3,591	6,107
United Kingdom	1,740	1,464
France	2,027	4,584
West Germany	2,894	2,182
Sweden	180	2,064
Denmark	865	824
Switzerland	3,564	910
Italy	152	3,078
United States	537	306



General view of Farmitalia factory in Settimo Torinese

ITALY

Italy's residential population is around 48 millions. Her pharmaceutical industry is estimated to comprise 1,000 (mostly small) firms employing 65,000 workers. The number of pharmaceutical chemists is estimated at 10,000 and of doctors at 58,000. Few Italian doctors are educated abroad, though those wishing to specialise usually go for a period to complete their studies, mainly to the United States, United Kingdom, Germany and Switzerland. Thus the majority are not familiar with foreign products, except those which have been introduced to the Italian market. Medical propaganda methods employed in Italy are similar to those used in Britain.

Unlike most leading industrial nations, Italy does not afford patent protection to pharmaceuticals or pharmaceutical processes. Thus the Italian industry is able to make use of British and other foreign inventions free of royalty payment. The patent law applying in the United Kingdom of course affords Italian firms full protection for their inventions in the same way as for a British manufacturer.

All pharmaceutical preparations imported into Italy which are prepared and packed for use may be offered for sale only after they have been registered at the offices of the High Commissioner for Hygiene and Public Health. Applications for registration must contain among other things the price fixed for sale to the public and that for sale to the pharmacist. The difference between those two prices must be sufficient to ensure a profit to the pharmacist of not less than 25 per cent. of the retail price. The authorities have the right to refuse registration if they are of the opinion that there are already sufficient preparations of a similar nature on the Italian market.

Pharmaceuticals selling in Italy usually carry a total dis-

count of 36 per cent. on the retail price, of which 27 per cent. goes to the retailer and 9 per cent. to the wholesaler. When hospitals receive proprietary medicines in hospital packs direct from the manufacturer, they receive the whole discount of 36 per cent., with sometimes an additional 5 per cent. Foreign competitors give their regular importers and distributors credit up to ninety days, the average being sixty days. For the British exporter competition comes chiefly from the domestic producer, though nearly all manufacturing countries have some well-known products on the market.

Until recently the price of an imported medicinal speciality was arrived at by the established formula $(P + 35\text{ per cent.}) \times 2.2$; P being the price in the country of origin (less purchase tax) and 35 per cent. representing cost of freight, duty and insurance. Lately there has been no regular system and the authorities appear to have applied arbitrary measures. Where there is an Italian-made equivalent product which is priced lower, the imported speciality, although carrying the import duty, may have its price equated to that of the domestic product. Recently manufacturers have been obliged to grant to Health Service institutions a special 12 per cent. discount on the retail price on those specialities on prescription by Health Service doctors. Whilst both foreign and domestic products are subjected to the discount it is obvious that that is an added burden for the duty-paid product. The Italians state they cannot discriminate between foreign and domestic products in the matter of discounts and say that producers and distributors of medicines must waive entitlement of part of their profit for the benefit of organisations which provide assistance for social purposes. Manufacturers are hoping that an opportunity will be found during forthcoming trade talks between the two Governments concerned for those problems to be fully discussed.

Italian customs duties are levied as a percentage of the open market value (c.i.f. Italian frontier). In addition, imported products have to bear every other manufacturing surtax, monopoly due or other levy imposed in Italy on the use of alcohol, sugar, sodium chloride, cocaine alkaloids, quinine and synthetic antipaludics. There are an administration charge of 0.5 per cent. on the c.i.f. value of the goods, and a general turnover tax (I.G.E.) of 3 per cent. levied on the gross landed value. That tax is also levied on the invoice value of goods in each subsequent transaction in which they change hands as, for example, from importer to wholesaler and from retailer to consumer.

Italy, 1957	Imports '000 lire	Exports '000 lire
Vitamins	1,708,067	899,297
Hormones	2,863,123	254,714
Alkaloids, natural or synthetic	574,101	84,961
Glycosides	312,766	948
Penicillin	114,478	151,940
Streptomycin	244,469	545,791
Chloramphenicol	—	1,856,003
Other antibiotics	761,253	335,023
Serums, vaccines	39,921	997,808

Additionally there is a compensatory tax (or equalising turnover tax) of 1 per cent. on pharmaceutical items levied on the gross landed value. General turnover tax and compensatory tax are parallel and not cumulative. Unlike I.G.E., the compensatory tax is not levied each time goods change hands.

In 1957 Britain imported from Italy just over £77,000 worth of antibiotics, mostly chloramphenicol. Exports of antibiotics from Britain to Italy totalled just over £100,000, and consisted mainly of streptomycin and tetracycline. Most of the tartaric acid imported into Britain in 1957 came from Italy, its value being £37,000.

A few months ago the largest chemical group in Italy, Montecatini (of which Farmitalia is the member company concerned with pharmaceuticals) announced that it was ready to meet the new situation caused by the European Common Market and did not fear foreign competition. The company's chairman said that its prices appeared to compare favourably with those of competitors. Group sales of Montecatini during 1957 exceeded by 14,000 million lire (1,740 lire = £1 sterling) those of the previous year (about 152,000 million lire), their exports amounting to 44,000 million lire or about 12 per cent. above 1956. About one-quarter of Farmitalia's output is exported. The company is reputedly the largest manufacturer in the world of *p*-aminosalicylic acid derivatives.

WESTERN GERMANY

Western Germany, including the western zone of Berlin and the Saar, has a population of 53½ millions and is the largest single unit in the Common Market bloc. With its post-war factories facilitating streamlined production, she is a formidable competitor for United Kingdom pharmaceutical exporters. Britain herself imported from West Germany

twice the value of pharmaceuticals she exported in return in 1957.

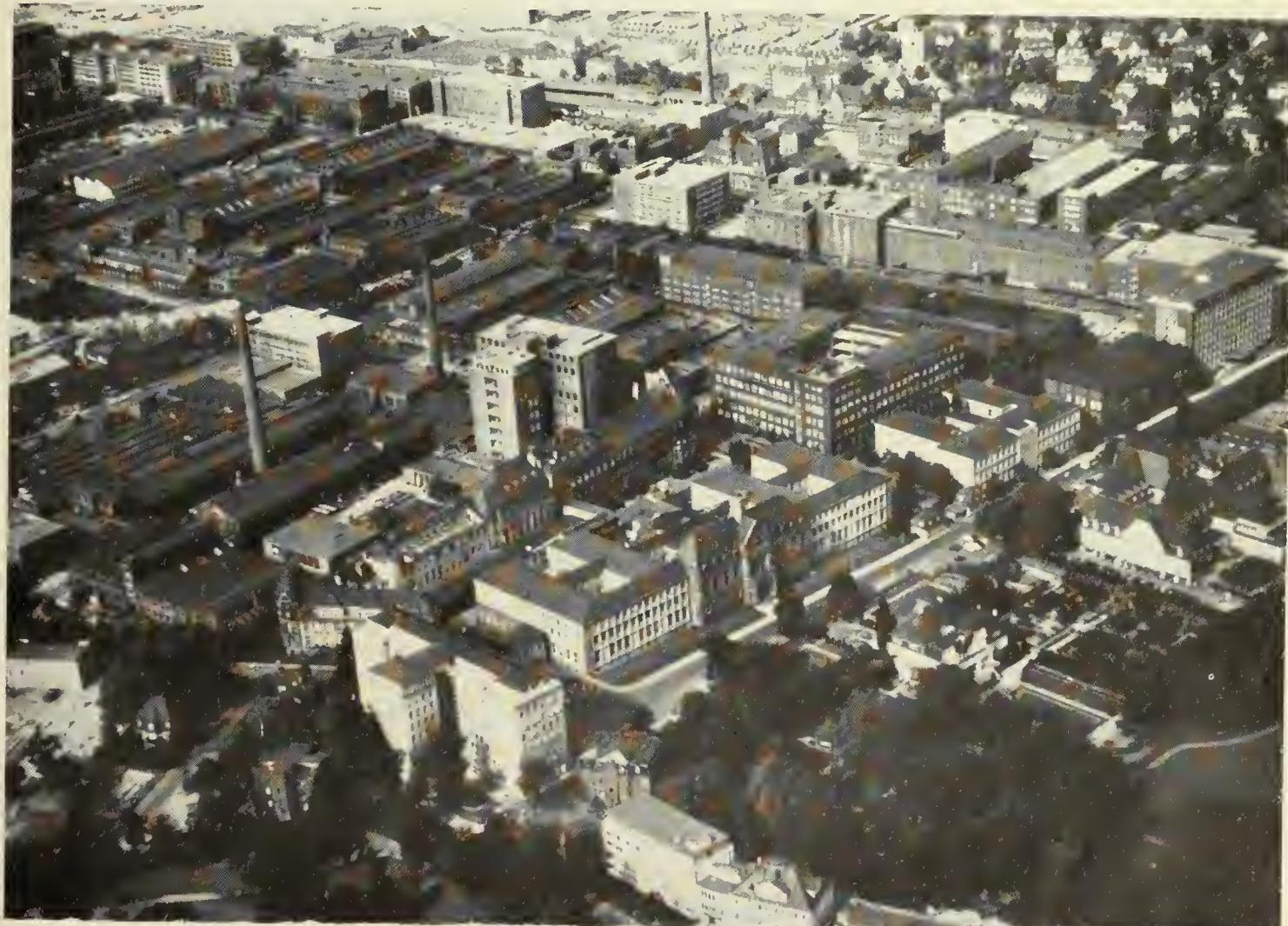
Production of pharmaceutical preparations in the Federal Republic, including West Berlin, amounted to DM 1,700 millions (DM 11·75 = £1 sterling) in 1957 and imports to DM 120 millions.

During the first quarter of 1958 exports of pharmaceuticals were valued at DM 117·3 millions against DM 95 millions in corresponding quarter of 1957. They included unprepared medicines valued at DM 39·5 millions and alkaloids at DM 11·1 millions. Imports of pharmaceuticals were, at DM 35·1 millions, 11·5 per cent. up on the first quarter of 1957 and included (in DM millions) unprepared medicines at 24·9; prepared medicines, 6·9; and alkaloids, 2·2.

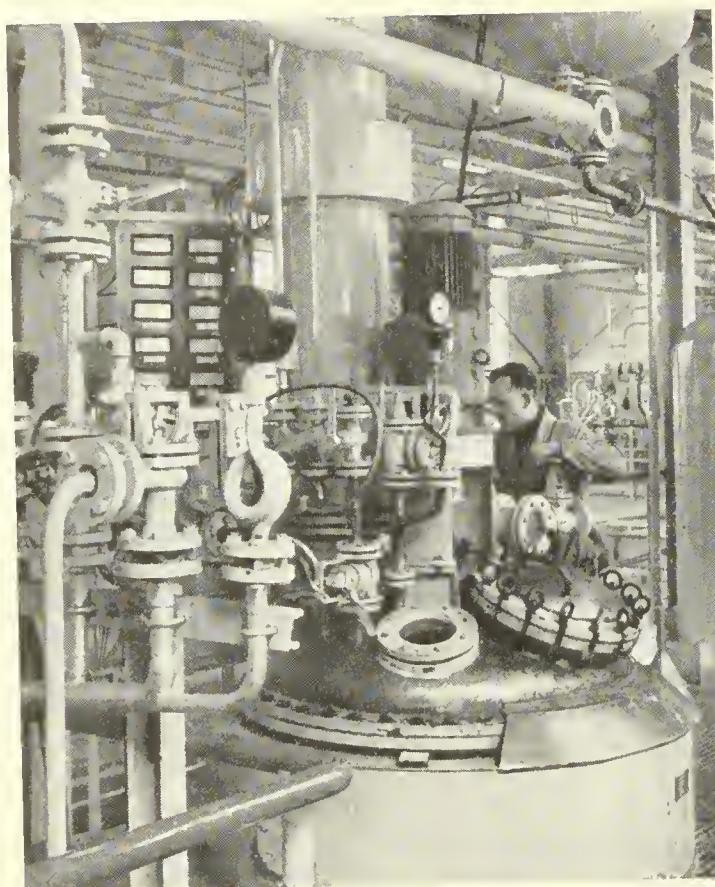
By far the largest manufacturer of pharmaceuticals in West Germany is Farbenfabriken Bayer, A.G. Other important producers are Farbwereke Höechst, A.G.; E. Merck, A.G.; Schering, A.G.; C. F. Boehringer & Soehne G.m.b.H., Mannheim; C. H. Boehringer Sohn, Ingelheim, and Knoll, A.G., Ludwigshafen.

Total sales of Farbenfabriken Bayer in 1957 were expected to amount to about DM 1,850 millions compared with DM 1,600 millions in 1956. Higher sales of pharmaceutical products, man-made fibres and insecticides primarily contributed to the overall increase. Exports account for about 40 per cent. of the company's total turnover. Investments in the company's domestic plants amounted to DM 250 millions while about DM 36 millions was spent for investments abroad.

C. F. Boehringer & Soehne, G.m.b.H., Mannheim, during the first half of its 100 years existence specialised in the production of quinine, cocaine and similar drugs. Later the firm developed its own synthesis of caffeine, codeine and theophylline and carried out work on digitalis and



Part of the giant works at Leverkusen of Farbenfabriken Bayer, Germany's largest producer and exporter of pharmaceuticals.



A manufacturing unit for the production of chloramphenicol at C. F. Boehringer & Soehne G.m.b.H., Mannheim.

strophanthus glycosides and more recently on rauwolfia alkaloids. The company now synthesise chloramphenicol and an oral preparation to replace insulin in certain forms of diabetes.

Knoll, A.G., founded in 1886, has also done pioneer work in the production of some morphine alkaloids and, among other alkaloids, caffeine and ephedrine are specially mentioned.

E. Merek, A.G., is one of the oldest enterprises in Germany, having been founded in 1654. Headed by Dr. Karl Merek the enterprise employs 6,000 people. The company make all vitamins, supplying them in bulk and in medicinal specialities, besides a large number of organic and inorganic drugs.

In Germany there is no scheme quite so comprehensive as the British National Health Service, but the majority of

West German overseas trade in pharmaceuticals (including pharmaceutical chemicals)

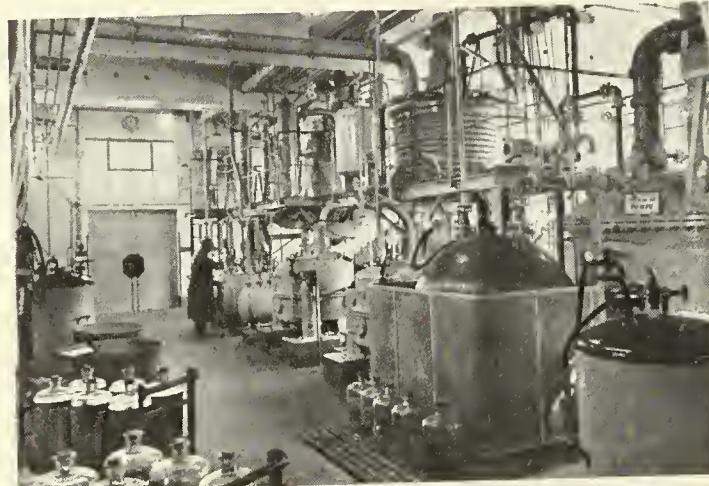
	1955 '000 DM	1956 '000 DM	1957 '000 DM
Imports	66,664	83,475	120,329
Exports	277,874	348,474	430,614

Imports from and export to Great Britain of pharmaceuticals

Import	1,366	1,490	5,070
Export	6,541	8,132	10,610
Domestic Production	1956	1957	
Pharmaceuticals, total ...	DM '000 1,303,703	DM '000 1,588,627	
Pharmaceutical chemicals ...	88,925	117,931	
Disinfectants	15,431	16,820	
Alkaloids, glycosides and their salts	56,049	69,397	
Vitamins and hormones ...	41,733	47,646	
Antibiotics	Not available	Not available	
Serums and vaccines ...	10,998	14,727	
Pharmaceutical specialities for human use ...	832,766	1,017,529	
Veterinary pharmaceuticals	43,438	81,632	

Germans subscribe to a *Krankenkasse*, which is similar in many respects. Membership is compulsory for those earning not more than DM 660 a month (about £55), and a large number of people earning more than that sum are also members. The scheme is operated by an official organisation, the *Allgemeine Ortskrankenkasse* as well as a number of independent insurance companies. Employees paid at hourly rates must use the *Allgemeine Ortskrankenkasse*, whilst others are free to choose their company; many of the latter do in fact insure with the official body. Doctors' and hospital bills are referred direct to the *Krankenkasse*, which pays in full, and the patient does not have to pay and then claim a refund. Medicine provided in hospital is included in the treatment, and no charge is made. As with the National Health Service, however, a nominal charge (DM 0·50 or approximately ten pence) is paid on each prescription. Rates of subscription vary according to salary, amounting, for those compulsorily insured, to 6·3 per cent. of total wages. For example, the rate for a person earning DM 660 per month would be DM 41·60. But that is not all paid by the employee. He is charged only slightly more than 50 per cent. of the rate, the balance being paid by the employer. Those who subscribe voluntarily pay the full rate themselves, the employer contributing nothing, but their rate is rather lower; for example, a bachelor earning DM 680 a month would pay approximately DM 30. Insurance paid by the head of a household equally benefits his wife and children. The rate paid for voluntary insurance is higher for a married man with children than for a bachelor.

There are 73,000 doctors, 40,600 having their own practice. About 35,000 are within the Social Health Insurance and about 20,000 are working as assistant physicians in hospitals and clinics. There are 13,000 pharmacists, and 7,200 pharmacies, while hospitals with pharmacy departments number about 240, and students taking the pharmaceutical course number 4,600.



Chemical production plant at Knoll, A.G., Ludwigshafen.

About 70 per cent. of the country's pharmaceutical requirements are supplied through 160 wholesalers to retail pharmacies; about 30 per cent. of the "ethicals" go to hospitals, either direct or through the retail pharmacist. About 3,000 hospitals have no pharmacy department.

The discount rate prevailing from manufacturer to wholesaler is, for hospital packings, 15 per cent. on the pharmacist's purchase price. The pharmacist's sale price is based on the *Deutsche Arzneitaxe* (German medicine tax) and he receives 33½ per cent. discount from that price when buying hospital packings from the wholesaler. All drugs and medicines are subject to a turnover tax, which applies each time they are sold as follows:—Sale by manufacturer, 4 per cent.; by wholesaler, 1 per cent.; by retailer, 4 per cent. Thus where the goods pass through a wholesaler the tax paid is 9 per cent. by the time it has reached the consumer but if the manufacturer sells to the retailer direct the equivalent figure is approximately 8 per cent. Social insurance bodies are exempted from sales tax.



**Kiddies need no coaxing
with this new form of Achromycin V**

Here's an entirely new form of ACHROMYCIN V especially designed to simplify the control of infection in children and infants. ACHROMYCIN V Pediatric Drops Aqueous—delightfully flavoured with orange—make a particular appeal to the child who turns awkward when it's time to take his medicine.

The product contains ACHROMYCIN tetracycline with citric acid and sodium citrate for more rapid absorption and higher levels of the antibiotic in the blood. Thus infection can be promptly controlled and the child's recovery accelerated. Accurate dosage can be measured drop by drop from the pliable plastic bottle (5 mg. of tetracycline per drop). The product can be given directly onto the tongue or added to water or fruit juice.

ACHROMYCIN V
TETRACYCLINE WITH CITRIC ACID AND SODIUM CITRATE
PEDIATRIC DROPS AQUEOUS

* REGD. TRADEMARK

Supplied in dropper-type plastic bottles of 10 cc.



LEDERLE LABORATORIES DIVISION Cyanamid OF GREAT BRITAIN LTD., London, W.C.2

continuing success of the
New RONSON
 with
Super Trim*

* Patents pending

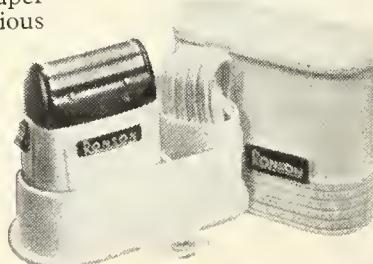
Ronson's bright new display material means extra sales for you! National advertising has created the demand — so cash in, and order now.



1 New Ronson with Super Trim in the handsome Presentation Case
 Retail price £8.17.6

3 The Standard Ronson, without Super Trim, in the Stowaway Pack
 Retail price £6.19.6

2 New Ronson with Super Trim in the luxurious coach-hide Trip Kit
 Retail price £10.10.0



... and Ronson's popular shaving lotions (pre-shave and after-shave).
 Retail price 5/6 per bottle.

Continue to profit with **RONSON**

"Botany Rambles" on a Grand Scale

HOW PHARMACY STUDENTS AND PHARMACISTS
ARE ENLISTED IN THE DEVELOPMENT AND IMPROVEMENT OF THE MEDICINAL PLANTS OF JUGO-SLAVIA

AT Belgrade, the capital of Jugo-Slavia, there is, under the University of Belgrade, an Institute of Pharmacognosy of the Faculty of Pharmacy that has, each year since 1945, organised scientific excursions among students of pharmacy and others.

There are two sorts of excursion. The first, which takes place in the autumn and again in the spring, takes parties of eighty to 300 for periods of one to five days to study medicinal plants in the forest regions. The excursionists study methods of harvesting, drying, baling, conservation, propagation, protection, etc. The students who show the greatest interest in medicinal plants are noted.

At the end of each school year a finishing course is held and candidates wishing to join in the teams of summer studies undergo an examination. The best are chosen (all told about twenty to forty pharmacy students who have completed their third year of studies) and also there are chosen a certain number of fourth-year students and others who have helped in the previous year, and the teams spend several days (July 1-7) in preliminary instruction at Goc, a centre located among beautiful forests and pastures at an altitude of 1,000 to 1,500 metres. Goc possesses veritable gardens of medicinal plants. After seven days' field work there, with daily excursions in various directions, the assembly breaks up into parties for longer excursions to places

previously arranged in a plan of work for the year. In addition to pharmacists and students there are at Goc forestry and field workers and biologists.

Each team is made up of from three to twelve members, depending on the amount of country covered by the study. They camp and work in the mountains for a period of from one to two months. Each team is directed by one of the assistants of the Institute, and is accompanied by one or several forestry workers of the region. The purpose of the excursions, which are sponsored by the Institute of Research into Medicinal Plants, is to prepare herbaria of medicinal and aromatic plants. Each plant in the herbarium is given as complete a scientific and economic documentation as possible, one copy staying with the forestry commission for the region, a second going to a regional economic institution, and a third copy being retained by the Institute. The parties also prepare plant maps of the region studied, giving areas of growth of the plants scheduled in the earlier field work at Goc. Three or four identical copies each are made of the map, two or three of them remaining in the region studied and one being kept in the Institute.

Each team sends to the Institute for analysis samples of medicinal plants found in the region studied, the object being to determine their quality according to the Jugo-Slav Pharmacopœia II (1951) or according to other works of

At right: Students harvesting plants for analysis in the laboratories of the institute for medicinal plant research. Below: An "Aristotle school" at Hvala near Belgrade. Its members are third-year pharmacy students taking a course in applied pharmacognosy. Lower right-hand: Three pharmacy students on a medicinal-plant study expedition in Serbia, 1957.





Left: Instruction given at a Spring-season course in medicinal plant culture for pharmacists in charge of village pharmacies. **Right:** A team of pharmacy students under their guide prepares to leave for the mountains to collect medicinal plants.

standards. In the Institute the value of the drug is assessed by chemical and physical analysis as well as by study of the macroscopic and microscopic characters of the plant.

The members of the teams organise in the towns and villages of the region exhibitions of medicinal plants, discussions and lectures on medicinal plants. The teams study possibilities of culture, propagation and organised protection of medicinal plants, especially where exploitation has been unscientific and threatens the disappearance of plants of pharmaco-medical importance.

One member of the team, an expert in plant pathology, studies the diseases of wild and cultivated plants within the region, and other members collect seeds, fruits and young plants of certain of the more important medicinal specimens for sending to the garden of medicinal plants at Belgrade.

Toxic, dangerous, irritant or other properties are noted, as well as any local applications of pharmacy, medicine, or veterinary medicine.

In ten years of such work more than 1,000 students of pharmacy, several hundreds of forest workers and "friends of medicinal plants" have taken part in the expeditions. As a teaching method the system has given excellent results, combining scientific study with practical work. The production and the quality of Jugo-Slav drugs have noticeably improved in consequence, and there has been created a generation of young pharmacists and forest workers knowledgeable in pharmacognosy and plant geography, and of enthusiasts in the rational exploitation, protection, cultivation and scientific use of the country's medicinal plants.

Laboratory Work

At Belgrade, the work of the institute of research is organised along three channels: a garden of medicinal plants; laboratories; and experimental stations.

There are four laboratories and in them are carried out running analyses (chemical, physical, macroscopical and microscopical) and the evaluation of vegetable drugs and essential oils sent by institutions or export concerns, a certificate being given for each such analysis. Next, samples of drugs of vegetable origin coming from native medicinal and aromatic plants are investigated (the samples are provided by the field teams already described). Thirdly, analyses are undertaken of samples of drugs from medicinal, aromatic or insecticidal plants cultivated in the Institute's garden or in the various experimental stations. Finally, investigations are carried out to establish (in collaboration with the Federal Commission of Standardisation at Belgrade) national standards for vegetable drugs and essential oils. Other work of the Institute consists in trying to work out improved methods of assay of drugs in the

Jugo-Slav Pharmacopeia, and studies designed to improve distillation apparatus and methods of producing essential oils; preparation of pharmacognosy maps and of herbals. The diseases of living and dried plants and drugs in shops are studied, as are methods of overcoming plant pests. An economic study is made of the medicinal plants of greatest value for each region. Driers for herbs are compared to arrive at the best models.

Medicinal Herb Garden

Three gardens, with a total area of 7 hectares, and about 20 kilometres apart, have been set up. Their climate is identical, but they have different soils and aspects. Seeds and plants produced in the gardens are distributed freely to interested users, and above all to experimental stations in the country.

The experimental stations are numerous. They vary in size from 100 to 5,000 sq. metres, and are mainly in the eastern part of the country. The stations serve for studies of the influence of altitude, of climate, soil, etc., on the growth and quality of vegetable drugs.

The stations are directed by agronomists or forest workers, but are under control of the Institute. The harvest belongs to the producing station, which is required to send samples for analysis and for evaluation of quality. An expert of the Institute makes several visits to each station during a season to give instruction. After due experiment, and on the results of assays, the decision is taken which plant may be cultivated in which region.

Another aspect of the country's work on medicinal plants is the organisation of herb collecting by schoolchildren. That has had marked economic results. During the 1939-45 war the occupying forces destroyed or damaged hundreds of schools throughout the country. After the war the schools were restored, but they have been sadly lacking in equipment. Since the end of the war in 1945 about 500,000 pupils, for the most part from the primary schools, have been organised as collectors. In their free time they gather herbs from around their villages, and dry them at home or in the open but shaded from the sun. In exchange for the dried herbs the school managements have obtained either corn (hence bread) or money. With the money they have organised school kitchens for pupils and above all for war orphans and poor children. The money has also provided clothing, shoes and books for the children, and urgent equipment for the schools. The country has in the process obtained medicinal plants for its hospitals, pharmacies and medicaments industry. Wherever possible gardens of medicinal plants have been laid out around the primary and certain secondary schools; and the pupils naturally assist in their upkeep and care.

TRADE REPORT

The prices given are those obtained by importers or manufacturers for bulk quantities or original packages. Various charges have to be added whereby values are in many instances augmented before wholesale dealers receive the goods into stock. Crude drugs and essential oils vary greatly in quality and higher prices are charged for selected qualities.

LONDON: JUNE 24: The London docks are gradually returning to normal working conditions, meanwhile MENTHOL, which has been held up (along with many other goods) has been moving again. Merchants are now awaiting arrivals of CRUDE DRUGS and ESSENTIAL OILS diverted to the Continent as a result of the strike and are hoping for added business as a result of a lowering in the bank rate. Prices in all sections were generally steady. SENEGA for shipment appears to be weak. Among AROMATIC SEEDS, good quality English MUSTARD was unobtainable, while FENUGREEK was easier both spot and forward. Jamaican GINGER lost a further 5s. per cwt. at origin and spot holders adjusted their prices by the same margin. CARMINE was quoted lower at 90s. per lb. against 95s. recently and ZINC OXIDE dearer by 30s. per ton at £102.

Pharmaceutical Chemicals

ACETANILIDE.—1-cwt. lots are 2s. 10d. per lb. for crystals and 5-cwt., 2s. 9d. Powder is 1d. per lb. more.

ACETIC ACID.—B.P. glacial in 10-ton lots is £104 per ton naked and technical £91. Carboys are £8 and demijohns, £10 per ton extra. Single carboys cost 1s. 8d. per lb. (3s. 8d. per kilo).

ADRENALINE.—Rates for synthetic B.P. are from 1s. 1d. (500-gm. lots) to 1s. 6d. (10-gm.) per gm. and ACID TARTRATE, B.P., from 9d. to 1s.

ALOIN.—Spot offers (14-lb. lots) are 28s. 9d. per lb.

ALUMINIUM HYDROXIDE.—One-cwt. lots of B.P.C. 1943 are 3s. 3d. per lb.

BARIUM SULPHATE.—250-kilo lots of B.P. (x-ray) are now 3s. 3½d. per kilo.

CAFFEINE.—Minimum rates for 5 cwt. or 250-kilos and over are as follows (kilo price in parentheses):—MONOHYDRATE, 17s. 6d. per lb. (38s. 9d.); ANHYDROUS, 18s. (39s. 9d.); CITRATE, 11s. 6d. (25s. 3d.); and SODIUM BENZOATE, 13s. 3d. (29s. 3d.); SODIUM IODIDE, 22s. 6d. (49s. 6d.); and SODIUM SALICYLATE, 14s. 9d. (32s. 3d.).

CALCIUM CARBONATE.—B.P. light-precipitated powder is £32 per ton, ex store.

CALCIUM CHLORIDE.—B.P. crystals are 1s. 3½d., and granulated, 10½d. per lb. in 1-cwt. lots.

CARMINE.—Price is 90s. per lb. for 1-cwt. lots.

LONDON EXCHANGE RATES

At the opening on Wednesday

Alexandria..	Piastres to £	97½-97½
Amsterdam ..	Florins to £	10·56-10·72
Bombay ..	Shillings to rupee	1/5½-1/6½
Brussels ..	Francs to £	138·95-141·05
Copenhagen..	Kronor to £	19·19½-19·48½
Frankfurt ..	D Marks to £	11·67½-11·84½
Hong Kong ..	Shillings to \$	1/2½-1/2½
Karachi ..	Shillings to rupee	1/5½-1/6½
Lisbon ..	Escudos to £	79·90-81·10
Montreal ..	Dollars to £	2·70½-2·70½
New York ..	Dollars to £	2·78-2·82
Oslo	Kronor to £	19·85-20·15
Paris	Francs to £	1,167·18-1,184·82
Stockholm ..	Kronor to £	14·37½-14·59½
Singapore ..	Shillings to \$	2·3/4-2·4/4
Zurich	Francs to £	12·15½-12·33½
*Free market rates; remainder Bank of England.		
Bank rate: 5 per cent. from June 19.		

METHYL SALICYLATE.—Five-ton lots are 3s. per lb.; 1-ton 3s. 0½d.; 10-cwt., 3s. 1d.; 5-cwt., 3s. 2d.; 1-cwt., 3s. 3d.

RESORCINOL.—1 cwt. lots are now quoted at 13s. per lb. by manufacturer.

SILVER SALTS.—PROTEIN, 36s. 3d. to 42s. 9d. per lb.; VITELLIN from 68s. 6d. to 76s. 6d. per lb. as to quantity.

SODIUM ACETATE.—B.P.C. in 28-lb. lots is 2s. 4d. per lb.; 1-cwt. 2s., and 5-cwt., 1s. 11d.

SODIUM BROMATE.—1-cwt. lots are quoted at 9s. 9d. per lb.

SODIUM CARBONATE.—B.P.C. exsiccated is 70s. per cwt.; 5-cwt. 65s. per cwt.

SODIUM CHLORIDE.—Re-crystallised is 25s. per cwt. and B.P., 42s.

SODIUM METABISULPHITE.—Granular in 1-ton lots is from £48 12s. 6d. to £53 17s. 6d. per ton according to packing.

SODIUM PERBORATE.—Prices (per cwt.) are 145s. 9d. in 1-cwt. kegs; 138s. 3d. in 1-cwt. bags for B.P.C. (minimum 10 per cent. available oxygen.) Other strengths pro rata. The PERBORATE MONOHYDRATE testing 15 per cent. available oxygen is 309s. 9d. per cwt.

SODIUM PERCARBONATE.—Price (per cwt.) is 170s. 9d. (bags, 7s. 6d. lower) for minimum 12½ per cent. available oxygen.

SODIUM PHOSPHATE.—B.P.C. powder is 2s. 3d. per lb.

SODIUM SALICYLATE.—Rates are now:—1-ton lots in bulk, 3s. 7d. per lb.; 5-cwt., 3s. 8d.; 1-cwt. 3s. 10d.

SODIUM SULPHATE.—Makers' prices for B.P. range from £12 10s. to £19 17s. 6d. per ton as to crystal and quantity, ex works.

SODIUM SULPHITE.—1-ton lots on the spot of ANHYDROUS (48-50 per cent.) are £71 10s. per ton in 1-cwt. drums or £67 5s., in 1-cwt. bags. CRYSTAL, B.P.C., are £32 15s. per ton in 2-cwt. paper-lined bags. Commercial crystals are from £27 to £28 15s. as to packing.

Crude Drugs

ACONITE.—Spot supplies of Spanish *napelus* are 2s. 9d. per lb.

AGAR.—Kobe is 11s. 3d. per lb., duty paid. New crop for June-July shipment, 9s. 2d., c.i.f.

ALOES.—Cape prime on the spot is 257s. 6d. per cwt.; shipment, 227s. 6d. c.i.f.

ANISE (STAR).—Chinese is 130s. per cwt. c.i.f., and 140s. spot in bond.

ARECA NUTS.—F.a.q. quoted at 60s. and selected, 140s. per cwt. landed.

DIGITALIS LEAF.—*Purpurea* (1956 crop), is offered at 1s. 2½d. per lb., c.i.f.; 1957 crop, 2s. 6d. to 2s. 7d., c.i.f.

ERGOT.—Portuguese is 5s. 6d. per lb., c.i.f., for prompt shipment and 6s. spot, American, 5s. 9d., spot.

FRANGULA.—Spot is 105s. per cwt.

GENTIAN.—French is 175s. per cwt. on the spot.

GINGER.—African, 95s. per cwt. on the spot; new crop for shipment, 90s., c.i.f. Jamaican No. 3 on the spot is 315s. per cwt. June-July shipment (new crop), 270s. c.i.f. Cochin spot, 95s.

GRINDELIA.—Herb is quoted at 2s. 6d. per lb.

GUM ACACIA.—Kordofan cleaned sorts are 132s. 6d. per cwt. on the spot; June shipment, 124s. c.i.f.

HENNA.—Indian is scarce on the spot. Origin not quoting for shipment.

PAPAIN.—Shipment (c.i.f.) value is 25s. per lb. for East African grade one.

PEPPER.—White Sarawak on spot is 2s. 6½d. per lb., spot, June-July shipment quoted at 2s. 6½d., c.i.f. Black Sarawak is offered at 1s. 6½d., spot, and June-July shipment at 1s. 6d., c.i.f. Black Malabar is now quoted at 217s. 6d. per cwt. on spot; July-August shipment 192s. 6d., c.i.f.

PIMENTO.—Shipment is 540s. per cwt., f.o.b.

SEEDS.—(Per cwt.) ANISE.—Cyprian is now 160s., spot. CARAWAY.—Dutch offering at 87s. 6d., duty paid with little interest shown. CELERY.—Indian quoted at 175s. on spot. New crop for June-July shipment is firm at 132s. 6d. c.i.f. CORIANDER.—Moroccan on spot is 60s., duty paid and 55s., in bond. New crop for shipment is quoted at 4s. 6d., c.i.f. CUMIN.—Cyprian is 195s. on spot; shipment; Cyprian, 185s. and Iranian, 155s., c.i.f. DILL.—Indian quiet at 70s., spot. FENNEL.—Indian 185s., on spot and Chinese, 160s. duty paid. FENUGREEK.—Moroccan offering at 50s., duty paid. MUSTARD.—English 60s. to 75s. quoted. No good quality available.

TRAGACANTH.—No. 1 ribbon is £120 to £125 per cwt., No. 2, £110 to £115.

TURMERIC.—Madras finger is 55s. to 57s. 6d. on the spot. June-July shipment, 55s., c.i.f., quoted.

Essential and Expressed Oils

ALMOND.—British oil is 8s. 3d. per lb. Moroccan, 6s. 9d., in bond.

AMBER.—Rectified on the spot is 1s. 6d. per lb.

ANISE.—Chinese, 8s. 6d. per lb., spot; shipment, 7s. 9d., c.i.f.

CITRONELLA.—Ceylon, spot firm at 4s. 2d.; shipment, 3s. 9d., c.i.f. Formosan, prompt shipment, 3s. 11d.; July-August shipment, 4s. 6d. per lb.; spot, 4s. 6d. in bond.

CLOVE.—Madagascar leaf is 6s. 6d. per lb., duty paid and 5s. 9d., c.i.f. for shipment. Rectified 87-88 per cent., 9s. 3d. Distilled bud oil, English, B.P., 26s. 6d. to 27s. 6d.

LEMON.—Prices of B.P. oil are from 10s. to 47s. 6d. per lb. on the spot according to quality. Californian for shipment, 25s. to 28s. 6d., c.i.f.

PENNYROYAL.—Spot is quoted from 17s. 6d. per lb., duty paid.

PEPPERMINT.—*Arvensis*: Chinese is 24s. 9d. per lb. on the spot and 22s. 6d., c.i.f. Brazilian, 10s., spot and 8s., c.i.f. Formosan, 16s., spot; new-crop for June-July shipment, 13s. 9d., c.i.f. *Piperita*: Italian "Mitcham" type, from 42s. 6d. to 50s.; American, 27s. 6d. to 30s., as to origin.

PIMENTO.—English-distilled berry is 180s. per lb.; imported, 75s. Rectified leaf, 27s. 6d. per lb. for small lots.

RUE.—Spanish is 25s. per lb. on the spot.

SAGE.—Spanish is 8s. 6d. per lb.; Dalmatian, 37s. 6d.

SANDALWOOD.—Mysore offered from 75s. to 77s. 6d. per lb. as to source. East Indian 70s. to 71s., spot.

SASSAFRAS.—Brazilian is from 3s. 6d. per lb., duty paid.

SPEARMINT.—Offers of U.S.P. grade are from 29s. per lb. on the spot.

TANGERINE.—Hand-pressed is 55s. per lb. and machine-pressed, 42s. 6d., spot.

VETIVER.—Spot is currently at about 90s. per lb.

YLANG YLANG.—Spot is from 45s. per lb.

TRADE MARKS APPLICATIONS ADVERTISED BEFORE REGISTRATION

From the "Trade Marks Journal," June 4

For pharmaceutical preparations (5)
VITRITE, 773,269, by Marfleet Refining Co., Ltd., Hull, Yorks.

For demineralised water (in the nature of distilled water) (5)

DAEDEX, 773,607, by John Sullivan, Barwell, Leics.

For pharmaceutical preparations for the treatment of the feet (5)

AKILAIN, 773,873, by Laboratoires Asepta, Monaco.

For pharmaceutical preparations in powder form for nasal or oral administration by insufflation (5)

PABRACORT, 774,109, by Paines & Byrne, Ltd., Greenford, Middlesex.

For medical and surgical bandages and materials prepared for bandaging (5)

TUBIGRIP, 774,238, by Seton Products, Ltd., Oldham, Lancs.

For pharmaceutical preparations for veterinary use (5)

DIROSAN, 774,863, by Boots Pure Drug Co., Ltd., Nottingham.

For laxatives (5)
MOD-O-LAX, 774,917, by J. & J. Ballard, London, S.W.17.

For photographic, cinematographic and optical apparatus and instruments, etc. (9)

RONDO, CHELICOFLEX, TOYOCAFLEX, 774,266-68, by Mayfair Photographic Suppliers, London, N.W.3.

From the "Trade Marks Journal," June 11

For sensitised photographic films for motion pictures (1)

EASTMAN, 746,004, by Kodak, Ltd., London, W.C.2.

For chemical products used in the manufacture of perfumes and fruit essences (1)

ARTHONE, 775,152, by Arthol, Ltd., Walton-on-Thames, Surrey.

For perfumes, eau-de-Cologne; essential oils for use in the manufacture of perfumes, toilet preparations and cosmetics; and non-medicated toilet preparations, toilet soaps, cosmetics and toilet articles (not included in other classes) (3)

BON VOYAGE, 766,597, by Dana (England), Ltd., London, S.W.1.

For cosmetics, nail polish, nail polish removing preparations, non-medicated toilet preparations, perfumes and perfumed soaps (3)

GALA, 765,631, by Gala of London, Ltd., London, W.1.

For perfumes and non-medicated toilet preparations and cosmetics (3)

Device with words "FAIRY PRINCESS BY COTY BUBBLE BATH," 764,975, by Coty (England), Ltd., London, W.1.

For hair lotions, cosmetic preparations and non-medicated toilet preparations (3)

VEILED RADIANCE, B768,358, by Elizabeth Arden, Ltd., London, W.1.

For all goods (3)

JIX, 768,943, by Gerard Bros., Ltd., Nottingham.

For sun-tanning preparations (being cosmetic or non-medicated toilet preparations) for use by spraying (3)

ULTRA-TAN SPRAY, B770,459, by Lloyd Hamol, Ltd., London, S.W.1.

For preparations for the hair (3)

KERANOYE, 771,797, by Eugène, Ltd., London, W.1.

For laxatives (5)

MOLLAXA, 769,028, by Datedanske Medicinal & Kemikalie-Kompagni Aktieselskab, Copenhagen, Denmark.

For pharmaceutical preparations and substances (5)

CASCORIN, 772,686, by Westminster Laboratories, Ltd., London, N.W.1. MURIPSIN, 775,615, by Norgine Pharmaceutical Products (London), Ltd., London, W.C.1.

For pharmaceutical preparations and substances for use in the treatment of the eyes (5)

YESULE, 773,462, by Duncan, Flockhart & Co., Ltd., Edinburgh, 11.

COMMERCIAL TELEVISION

PROGRAMME details are given to enable chemists to put in linking-up displays if they wish. Notice given is as far in advance of the programme date as can be guaranteed by the broadcasting companies. Where known, the number of appearances of the product during the week is shown in parentheses.

July 6-12

LONDON

Airwick, Alka-Seltzer (2). Amami wave set (2). Andrew's liver salt (3). Beecham's pills (3), powder (2). Bristow's shampoo (2). Brylcreem (3). Cooper's aerosols (2). Damaskin, Delsey (2).

Flit press-button spray (2). Frozoclene, Fynnon salt. Germolene (4). Ingram's shaving cream (2). Iron Jelloids (2). Lorelox (2).

Maclean's indigestion remedies (2), tooth-paste (5). Mix-A-Shake. Moorland's tablets. Mothaks (2). Nervone (2). Optone, Optrex (3). Parke-Davis shaving cream. Pepsodent (3). Phillip's dental magnesia (2). Phyllosan (4). Prom.

Silvikrin leaf shampoo (2). Sprinkleen. Twink (3). Vosene shampoo (3). Yeast-Vite.

MIDLAND

Alka-Seltzer. Amami wave set (2). Andrew's liver salt (3). Arrid Roll-on (3). Beecham's pills (2), powders (2). Bristow's shampoo. Brylcreem (4). Cooper's aerosols (2).

Flit press-button spray. Fynnon salt. Germolene. Hiltone (2). Ibcoll (6). Ingram's shaving cream (3). Lorelox (2).

Maclean's indigestion remedies (2), tooth-paste (6). Mellajuce (2). Moorland's tablets. Mothaks (2). Optrex (2). Pepsodent (4). Phyllosan (4). Prom (2). Quickies (3).

Silvikrin pure, leaf shampoo (3), hair cream. Sprinkleen. Twink (4). Vosene shampoo (3). Yeast-Vite.

NORTHERN

Alka-Seltzer (2). Amami wave set (2). Andrew's liver salt (3). Beecham's pills (3), powders (3). Bristow's shampoo (2). Brylcreem (4). Carter's little liver pills (2). Cooper's aerosols. Cephos (4). Dinneford's magnesia (2).

Eno's Fruit Salt (2). Fynnon salt (2). Germolene (3). Hiltone (2). Ibcoll (6). Ingram's shaving cream (3). Larson's Swedish milk diet.

Maclean's indigestion remedies (3), tooth-paste (3). Moorland's tablets. Optabs, Optrex (2). Pepsodent (4). Phosferine (2). Phyllosan (3). Prom.

Silvikrin pure, leaf shampoo (3), hair cream. Setlers (4). Sprinkleen. Twink (5). Vosene shampoo (4). Vaseline hair cream (3). Yeast-Vite. Zoflora.

SCOTLAND

Alka-Seltzer. Amami wave set (2). Andrew's liver

C. & D. WEEKLY LIST OF PRICES

A = Advanced; R = Reduced; I.R.P. = Inclusive Retail Price; * = Tax 30 per cent.

BROWN & POLSON, LTD.

Dextrosol tablets "family pack" 1 8½

CROOKES LABORATORIES, LTD.

Episol lotion 30 mils 7 0
cream 30 gm. 7 0
powder 30 gm. 7 0

DISTILLERS CO. (BIOCHEMICALS), LTD.

Streptokinase sulphur oral suspension veterinary 16 oz. 18 4 27 6

FLAV-R STRAWS, LTD.

Flav-R straws 8 50 0 1 0

PHARMACEUTICAL SPECIALITIES (MAY & BAKER), LTD.

Perolysen tablets* 5 mgm. 50 13 6
500 117 0
10 mgm. 50 24 0
500 210 0

SMITH & NEPHEW, LTD.

Sunea sunning lotion* 28 4 4 3

P.A.T.A. LIST

(Alterations notified this week by the Proprietary Articles Trade Association.)

GORDON-MOORE, LTD.

Moulin Rouge cosmetic dentifrice* 1 9
2 9

PRETESTED PRODUCTS, LTD.

Arrid roll-on lotion deodorant* 34 8 5 0
lotion deodorant* 17 4 2 6
"super" spray* 36 9 5 0

NEW PRODUCTS AND PACKS

BAYER PRODUCTS, LTD. Each
Panadol tablets* 12 1 6 2 9

salt (3). Askit (7). Beecham's pills (3), powders (2). Bristow's shampoo (2). Brylcreem (3). Delsey. Dinneford's magnesia (2).

Fynnon salt (2). Germolene (4). Kodak.

Maclean's indigestion remedies (2), tooth-paste (3). Moorland's tablets. Optrex (2). Pepsodent (6). Prom (2).

Silvikrin leaf shampoo (2), hair cream. Twink (3). Vosene shampoo (3). Yeast-Vite.

WALES

Airwick. Alka-Seltzer (2). Andrew's liver salt (4). Beecham's pills (3), powders (2). Bristow's shampoo (3). Brylcreem (3). Cooper's aerosols (2).

Fynnon salt (2). Hilton (2). Ibcoll (6). Ingram's shaving cream (4). Kodak cameras.

Maclean's indigestion remedies (2), tooth-paste (2). Moorland's tablets. Pepsodent (4). Phosferine (3). Phyllosan (4). Prom.

Silvikrin leaf shampoo (3). Twink (3). Vosene shampoo (4). Yeast-Vite.

PRESS ADVERTISING

ALFRED FRANKS & BARTLETT CO., LTD., 266 Gray's Inn Road, London, W.C.1; Bartex sunglasses. In *Daily Express*, *Daily Mirror*, *News of the World*, *Radio Times*, *T.V. Times*, *Woman*, *Woman's Own*.

GOLDEN, LTD., 7 Grosvenor Street, London, W.1; Tress. National newspapers.

INNOXA (ENGLAND), LTD., 1 Eden Street, London, N.W.1; Innoxa cream powder. *Sunday Express*.

E. GRIFFITHS HUGHES, LTD., P.O. Box 407, Manchester: Sno-stik. National Press and principal women's magazines.

PUBLICATIONS

Booklets and Leaflets

WILKINSON SWORD, LTD., Acton, London, W.3: "Craftsmanship Spans the Centuries." Pp. 8.

COMING EVENTS

Items for inclusion under this heading should be sent in time to reach the Editor not later than first post on Wednesday of the week of insertion.

Tuesday, July 1

NATIONAL ASSOCIATION FOR THE PREVENTION OF TUBERCULOSIS, Royal Festival Hall, London. Commonwealth Chest Conference. (Until July 4).

Thursday, July 3

FEDERATION OF SOUTH-EASTERN PHARMACISTS, Southover Grange, Lewes, at 8 p.m. Mr. G. H. Simmons (chief work study officer, British Productivity Council) on "Help Yourself to Lower Costs."

NORTH LONDON PHARMACEUTICAL ASSOCIATION, Cherry Tree, Southgate, London, N.14, at 2.30 p.m. Mystery trip and "treasure" competition.

For all travel sickness



SELL 'Marzine'

TRADE MARK



BURROUGHS WELLCOME & CO. (THE WELLCOME FOUNDATION LTD.) LONDON

4 paying reasons why

you will profit by stocking



the new Andrex

2-ROLL PACKS IN COLOUR!

1

YOUR CUSTOMERS WANT COLOUR! The housewives of today want *colour* for their homes. Colour in the living-rooms, colour in the kitchen—and colour, too, *in the bathroom!* This is why, today, the Andrex single pack in colour accounts for nearly *one in three* of Andrex sales!

2

2-ROLL PACKS—popular money-savers! The Andrex 2-roll pack in *white* is such a popular money-saver that already it outsells the single roll. Now you can offer the 2-roll pack in *colour* too, at *no extra cost*, demand will be even brisker. And remember, the 2-roll pack means faster turnover—quicker profits for you!

3

AT LEAST 26.5% PROFIT! Retail trade price is 30/10 per 18-roll case. Consumer price 2/4 per 2-roll pack. Your profit—at least 26.5%. *Plus quantity discounts that start at 2 cases!*

4

FULL QUANTITY DISCOUNTS ON SMALL-QUANTITY CASES! Coloured Andrex in the 2-roll pack comes in special small-quantity cases, each containing *only eighteen* 2-roll packs per case. And under the new Bowater-Scott Quantity Discount Terms, these special small cases qualify for *full-case discounts!* This means that an order of, say, just one small case of each of the four colours (pink, blue, green and yellow), plus a case of Andrex 2-roll packs in white, puts your profit up to *over 30%*!

Please place your order through your usual wholesaler.

And remember—

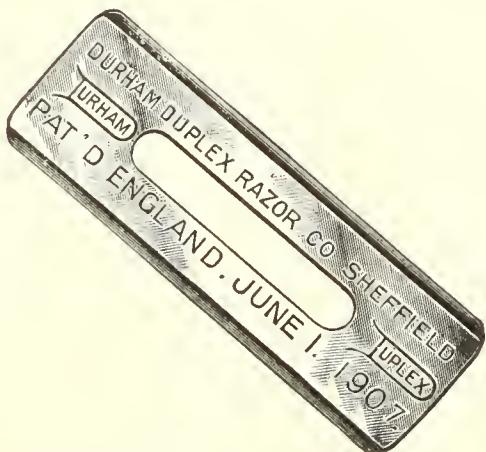
Bowater-Scott quantity discounts start at just two cases!

BOWATER-SCOTT CORPORATION LIMITED

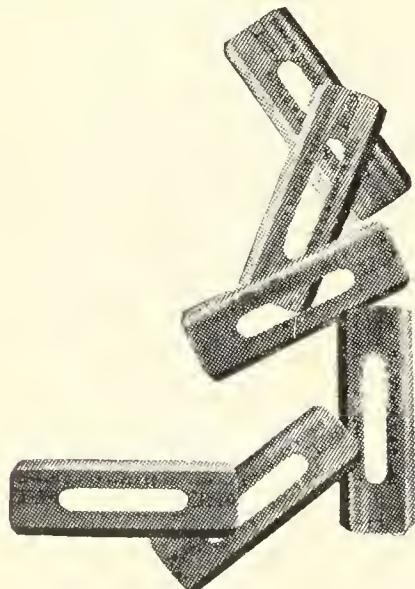
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DURHAM-DUPLEX

RAZOR BLADES



Made to fit the famous Durham Duplex Safety Razor, these original Hollow Ground blades will give easier shaves and more shaves than any other safety blade obtainable. Enquiries are invited.



**DURHAM-DUPLEX RAZOR
CO., LTD.**

72 ARUNDEL STREET
SHEFFIELD, 1.

Velouty de DIXOR

POWDER CREAM

Velouty is immensely popular because it performs a special task in the art of achieving complexion beauty. This excellent preparation can be a source of good business to you.

Shades
IVORY NATURAL PEACH SUNGOLD
OCHRE APRICOT and RACHEL
TUBES No. 2 No. 3
TRADE 7/6 doz. 12/3 doz. RETAIL 1/4 ea. 2/2 ea.
JARS : TRADE 17/2 doz. RETAIL 3/- ea.

Velpuff

CREAM POWDER COMPACT

Velpuff is a perfect creamy base, with the softest, finest powder. Ready to be smoothed on with its own puff, it stays matt for hours.

LUXURY CASE WITH MIRROR Retail 5/II each WHOLESALE 33/6 per doz. 4 SHADES FASCINATION (Natural) ENCHANTMENT (Rachel) MYSTIC TOUCH (Peach) IRRESISTIBLE (Brunette) Also No. 1 Size (Metal Case) Retail 3/4 Wholesale 18/8 doz.

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5th Edition 45s. net

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AND DISPENSING**

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PHARMACEUTICAL CHEMISTRY**

WILSON & GISVOLD

3rd Edition 90s. net

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AMERICAN MEDICAL ASSOCIATION

30s. net

EXERCISES IN THE EVALUATION OF DRUGS AND SURGICAL DRESSINGS

E. J. Shellard, Lecturer in Pharmacognosy, Chelsea Polytechnic.

A new book for pharmacy students to be published Autumn 1958

Approx. price 15s. net

PITMAN MEDICAL PUBLISHING COMPANY LIMITED

39 PARKER STREET, LONDON, W.C.2

1896 — **P.A.T.A.** — 1958

Membership and Service

330 Proprietary Manufacturers, 800 Wholesalers (including affiliated members) and 11,500 Retail Chemists are members of the Proprietary Articles Trade Association—which continues to foster the interests of those manufacturers, wholesalers and retailers who believe in price maintenance.

The principal "object" of the P.A.T.A. is "the furnishing to its members of advice, information and assistance (financial or otherwise) relating to matters of common interest."

Under Section 25 of the Restrictive Trade Practices Act, 1956, manufacturer members of the P.A.T.A. who attach price conditions to their goods are empowered to enforce such conditions in the Courts, and the Association may assist them to use the legal facilities available for the purpose by providing (for those who care to make use of it) an efficient organisation for carrying out detailed enquiries and obtaining evidence of purchase under which proceedings under Section 25 could be instituted.

The P.A.T.A. *List of Proprietary Articles, 1958*, will assist the trade generally to identify those manufacturers who impose conditions fixing wholesale and retail prices. Regular supplements to the List appear in the *P.A.T.A. Quarterly Record*.

THE PROPRIETARY ARTICLES TRADE ASSOCIATION

43 GORDON SQUARE, LONDON, W.C.1. EUSTON 3275

Secretary: H. E. CHAPMAN, M.P.S., F.C.S., J.P.



For
AN INJECTION-FREE FUTURE
IN PERNICIOUS ANAEMIA

'DISTIVIT'

vitamin B₁₂ PEPTIDE complex

AN ORIGINAL PRODUCT OF DC(B)L RESEARCH

- efficiently absorbed after oral administration
- clinically as effective as injection of crystalline vitamin B₁₂
- free from toxicity; no unpleasant taste

'DISTIVIT' brand vitamin B₁₂ peptide complex, backed by clinical investigation,* is an oral preparation that is efficiently absorbed and which restores the normal blood picture in pernicious anaemia as effectively and consistently as does crystalline vitamin B₁₂ administered by the parenteral route.

'DISTIVIT' oral vitamin B₁₂ PEPTIDE complex should not be confused with mixtures of crystalline vitamin B₁₂ with intrinsic factor or other absorption additives.

'Distivit' 20

Each scored tablet contains 20 micrograms combined vitamin B₁₂ in the form of a peptide complex.
Tubes of 25 and bottles of 100 tablets.

'Distivit' 100

Each tablet contains 100 micrograms of vitamin B₁₂ in the form of a peptide complex.
Bottles of 100 and 500 tablets.

'DISTIVIT'

AN ORIGINAL PRODUCT OF  RESEARCH

* "The Oral Treatment of Pernicious Anaemia: A New Approach" J. G. HEATHCOTE and F. S. MOONEY Lancet (1958), I, 982.

THE DISTILLERS COMPANY (Biochemicals) LIMITED

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Telephone: Liberty 6600

Owners of the trademark 'Distivit'

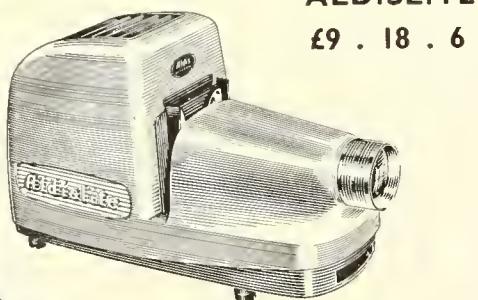


Choose a good

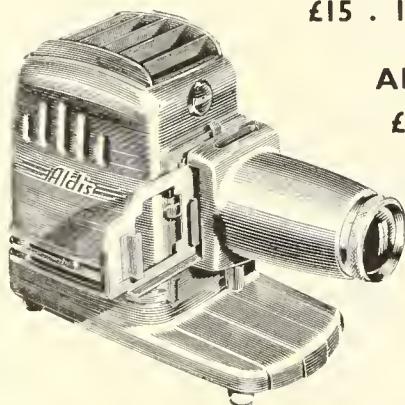
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COLOUR SLIDE
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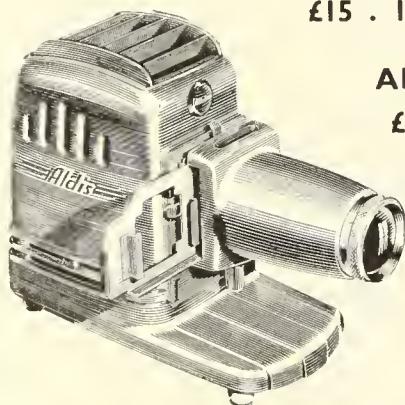
—nine models, all taking
the Airequipt automatic
slide changer



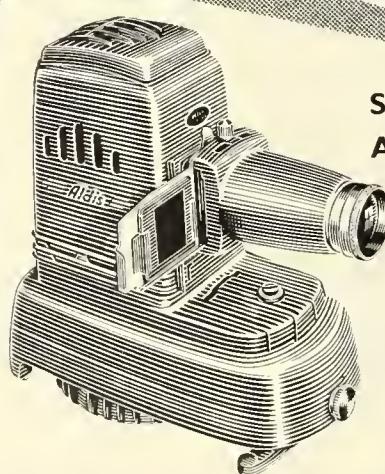
ALDISLITE
£9 . 18 . 6



ALDISETTE 2
£15 . 15 . 0



ALDISETTE 3
£19 . 19 . 0



SUPER
ALDISETTE
with
extraction
cooling
£25 . 17 . 6

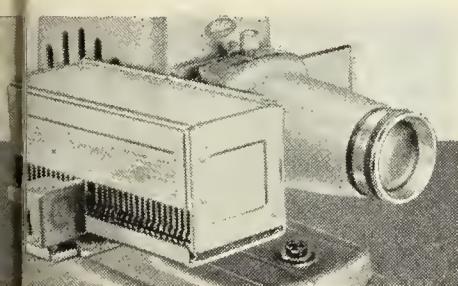
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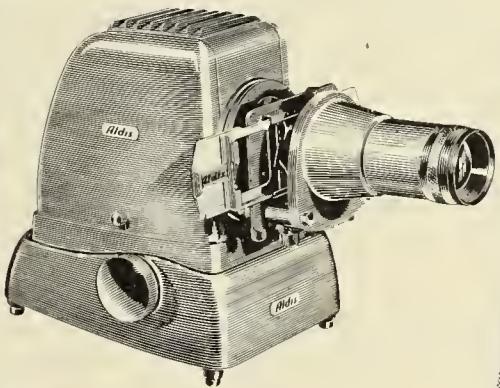
projector

afford an

There's an Aldis projector to suit every purse and every purpose. They are being consistently advertised in all the leading photographic journals and—from next week—the 58 newspapers listed here will be carrying special Aldis advertisements tying up with the holiday season. Stock and display Aldis projectors: demonstrate them to your customers so that they can see their own transparencies life-size and brilliantly illuminated. Order now and profit from our big publicity campaign for extra business.



Airequipt Automatic Slide Changer costs only £4.15.0 complete with magazine for 36 transparencies. Extra magazines 14/9 each. No adaptor needed for Aldisette 2 and 3 or Super Aldisette. For other models, the adaptor costs 7/6.



ALDIS 300
£19 . 19 . 0
ALDIS 500
£24 . 17 . 6

ALDIS 5-STAR 1000 £29 . 18 . 6
ALDIS SUPER SIX 300 £28 . 15 . 0
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Bath & Wilts Chronicle	Birmingham Mail
Birmingham Evening Dispatch	Bolton Evening News
Birmingham Mail	Bournemouth Daily Echo
Bolton Evening News	Bradford Telegraph & Argus
Bournemouth Daily Echo	Brighton Evening Argus
Bradford Telegraph & Argus	Bristol Evening Post
Brighton Evening Argus	Bristol Evening World
Bristol Evening Post	Coventry Evening Telegraph
Bristol Evening World	Darlington Northern Despatch
Coventry Evening Telegraph	Derby Evening Telegraph
Darlington Northern Despatch	Dundee Evening Telegraph & Post
Derby Evening Telegraph	Edinburgh Evening Dispatch
Dundee Evening Telegraph & Post	Edinburgh Evening News
Edinburgh Evening Dispatch	Exeter Express & Echo
Edinburgh Evening News	Glasgow Evening Citizen
Exeter Express & Echo	Glasgow Evening Times
Glasgow Evening Citizen	Gloucester Citizen
Glasgow Evening Times	Gloucester Echo
Gloucester Citizen	Grimsby Evening Telegraph
Gloucester Echo	Huddersfield Daily Examiner
Grimsby Evening Telegraph	Hull Daily Mail
Huddersfield Daily Examiner	Ipswich Evening Star
Hull Daily Mail	Jersey Evening Post
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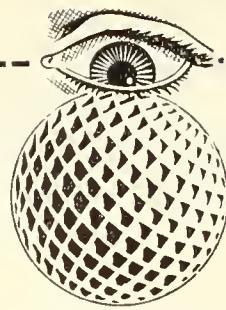
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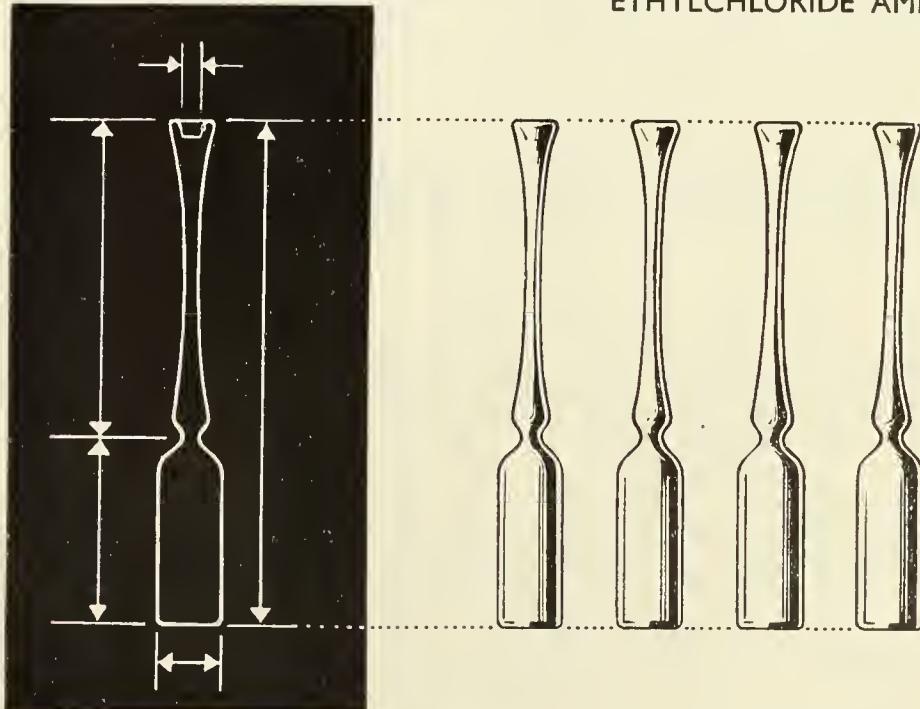


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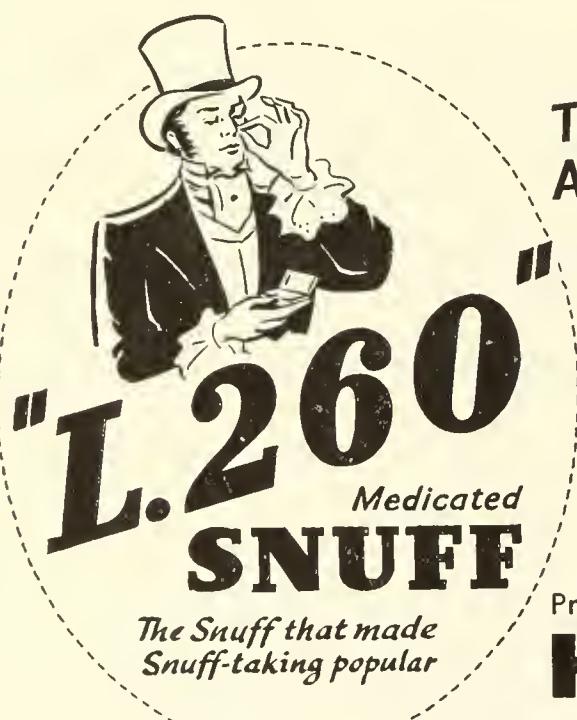
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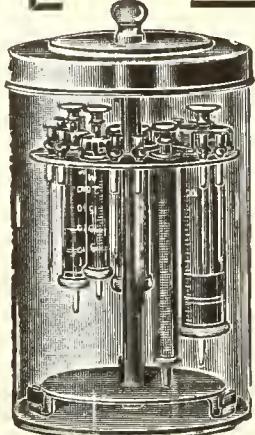
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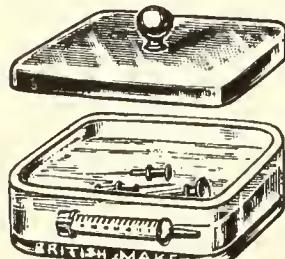
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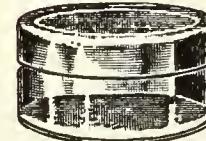
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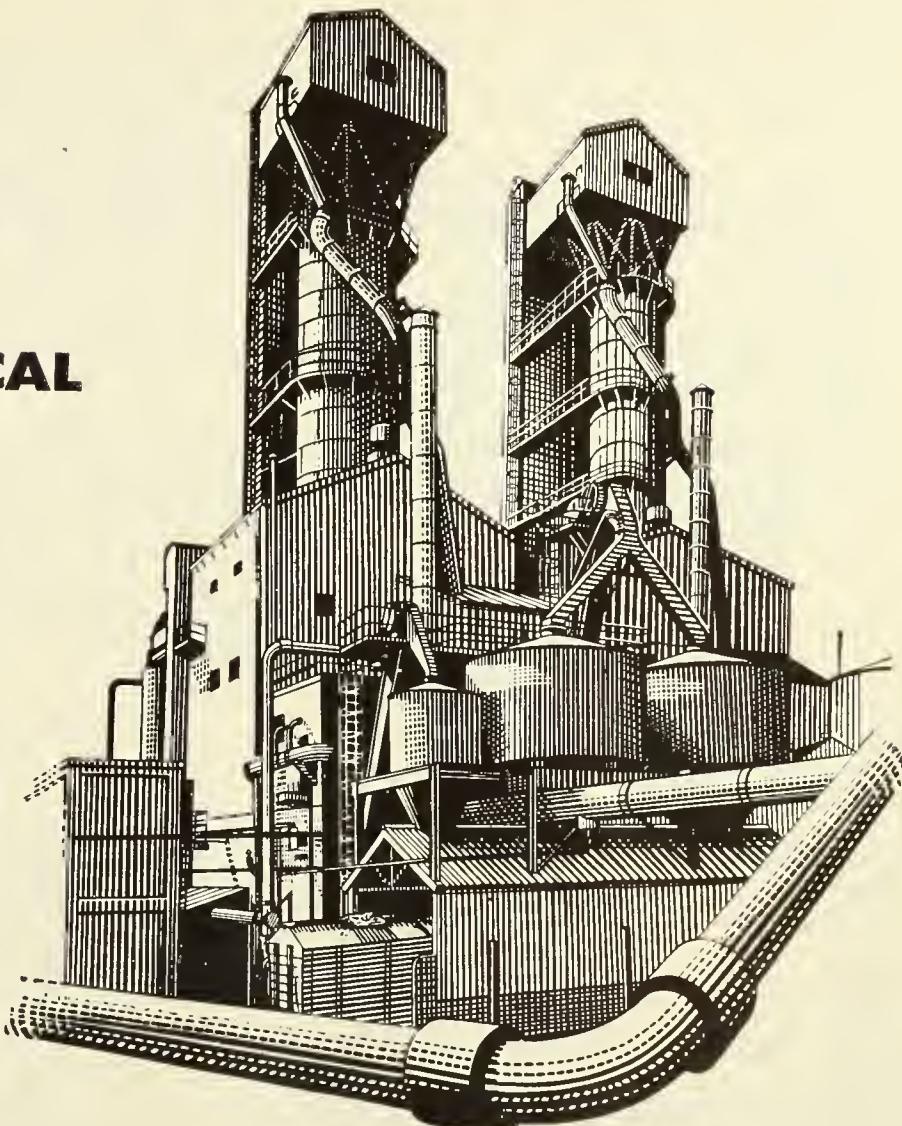
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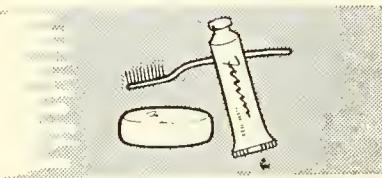
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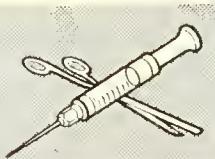
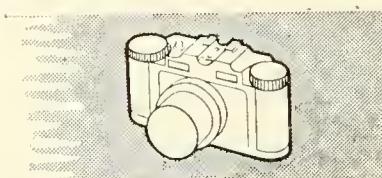
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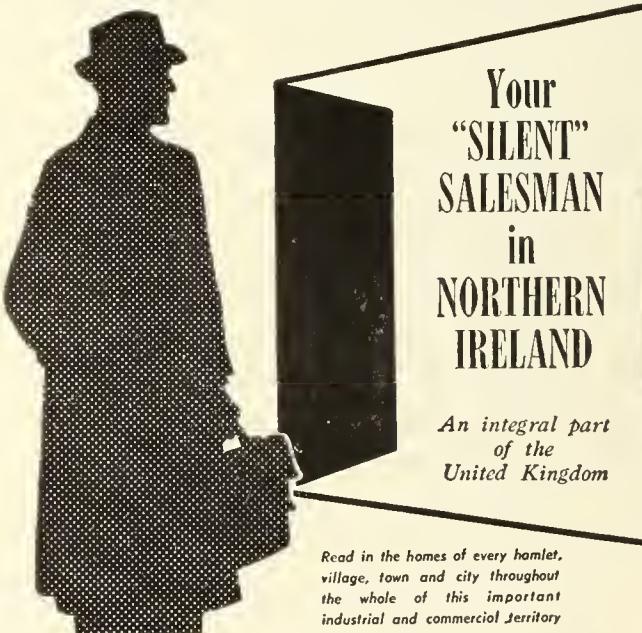
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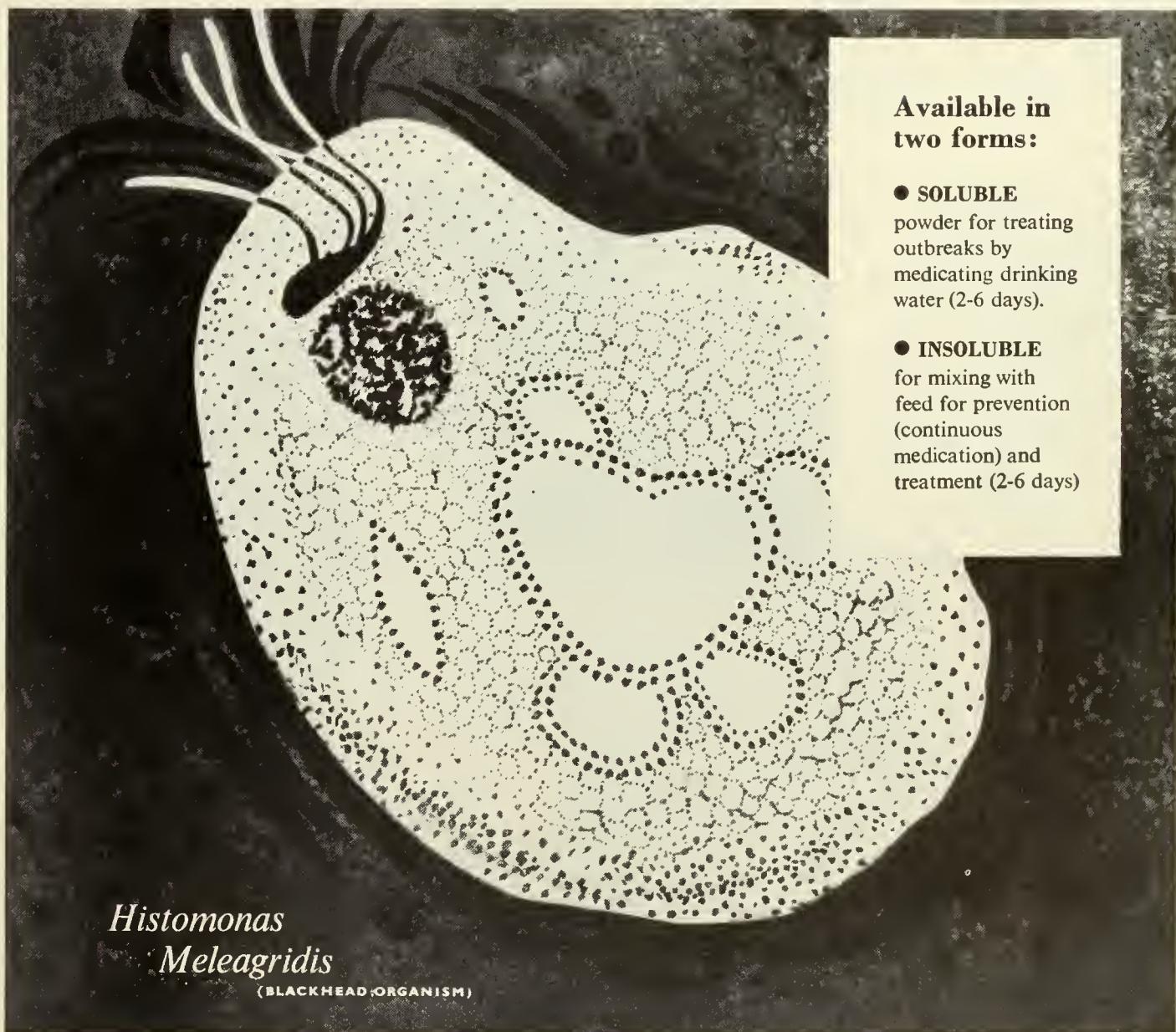
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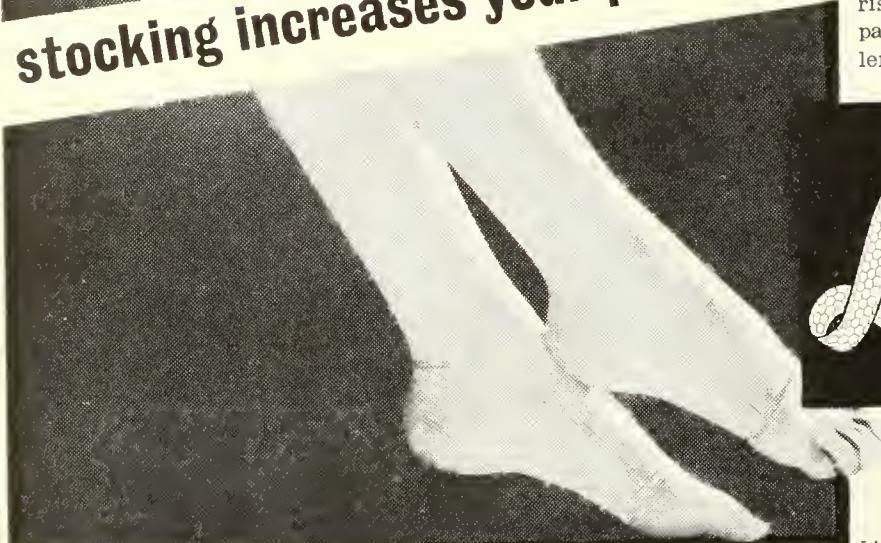
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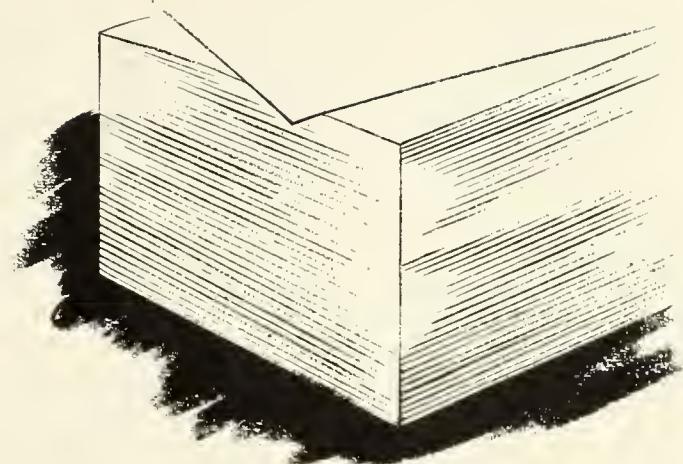
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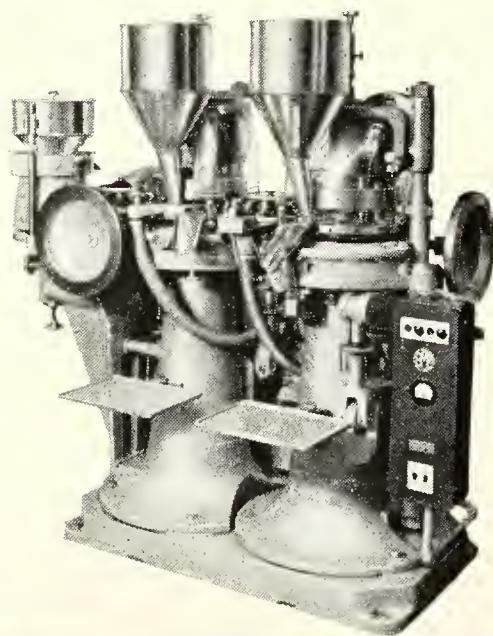
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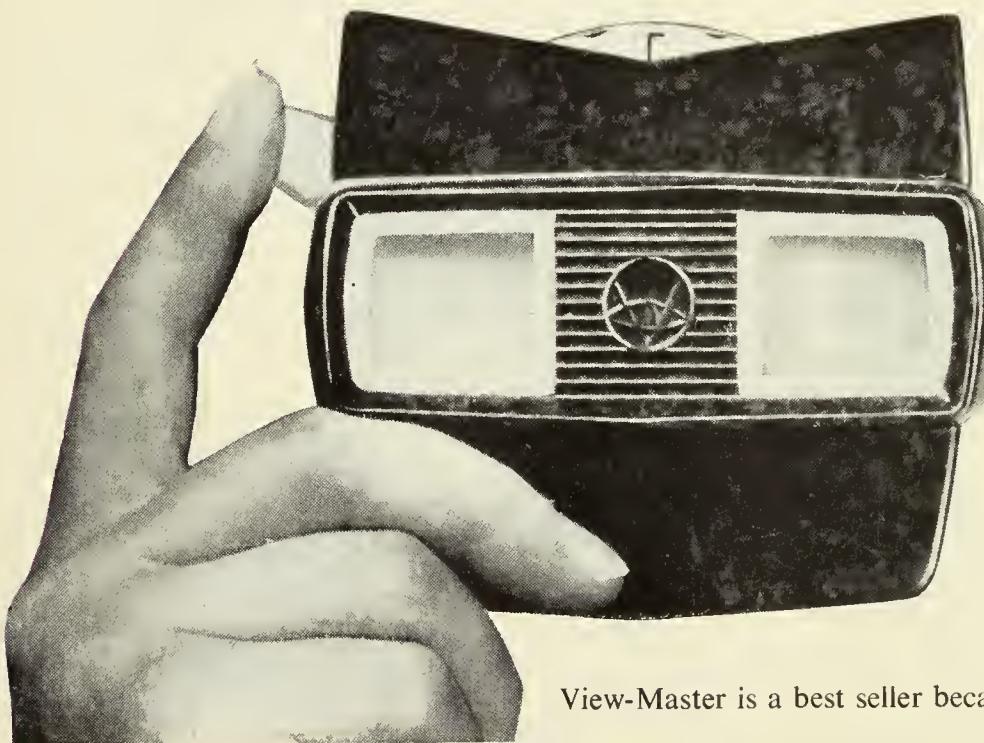
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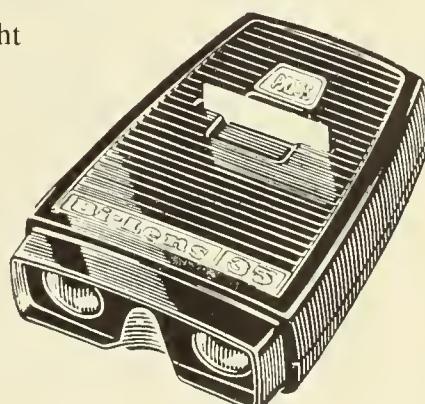
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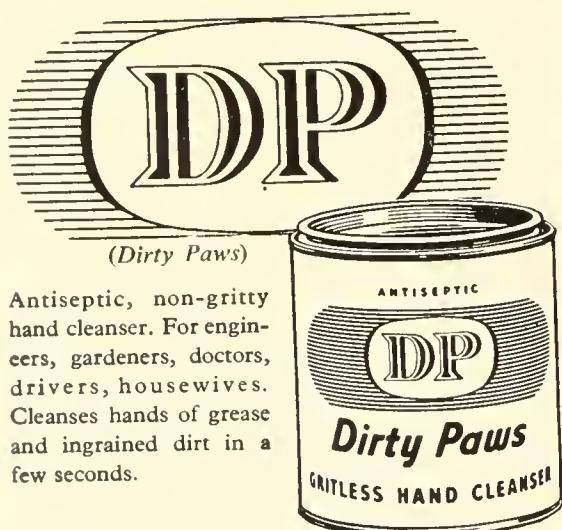


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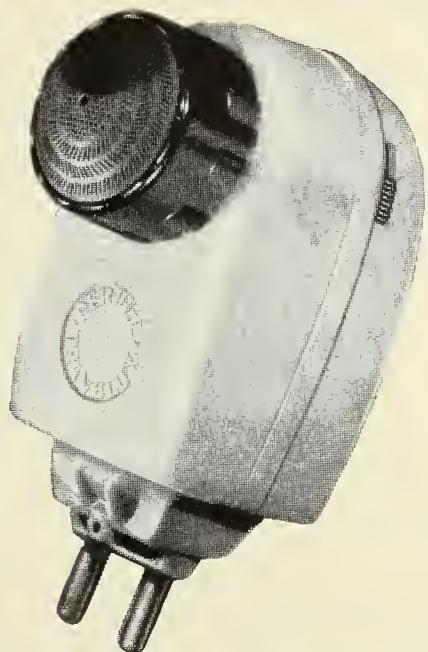
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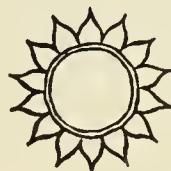
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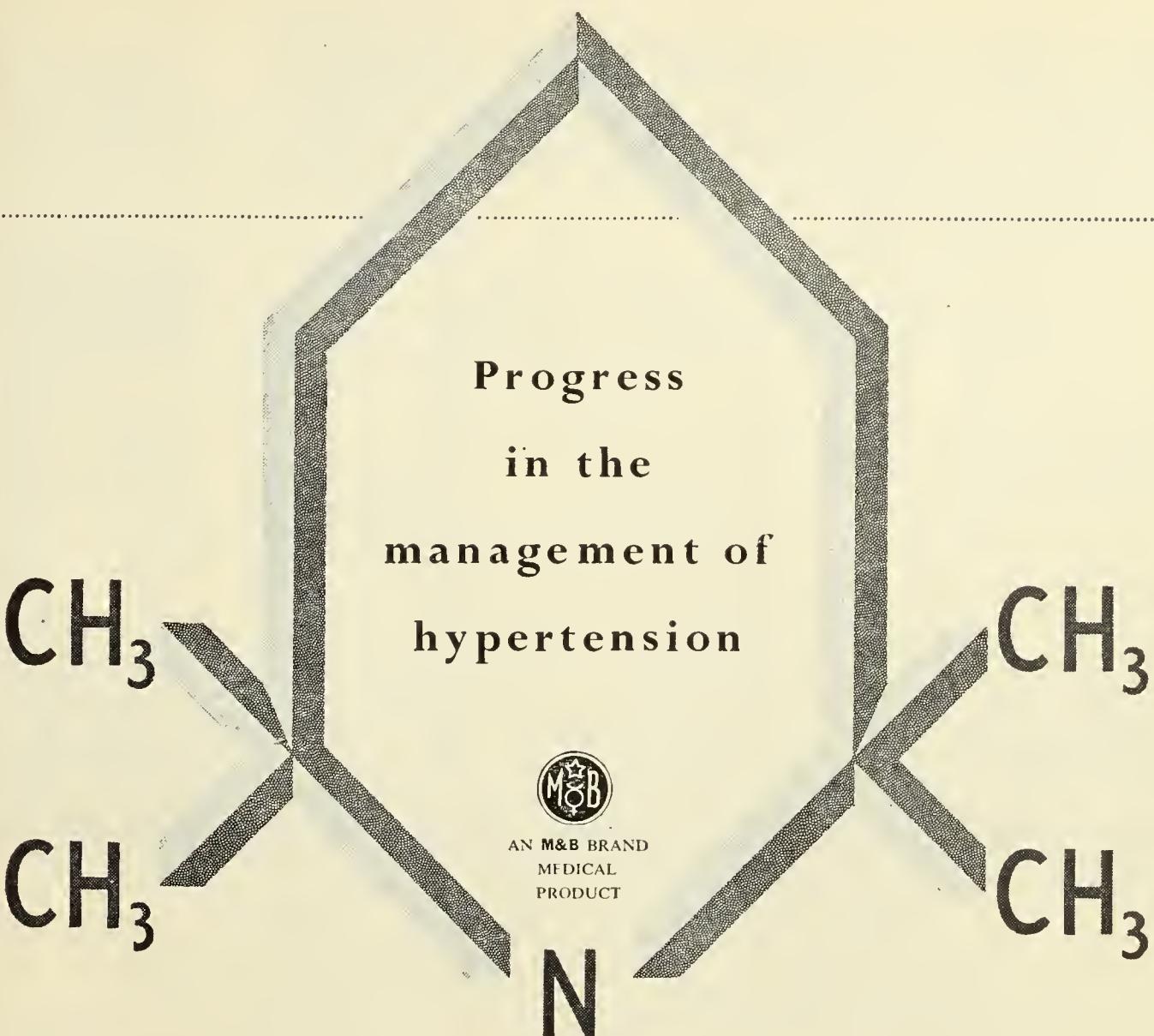
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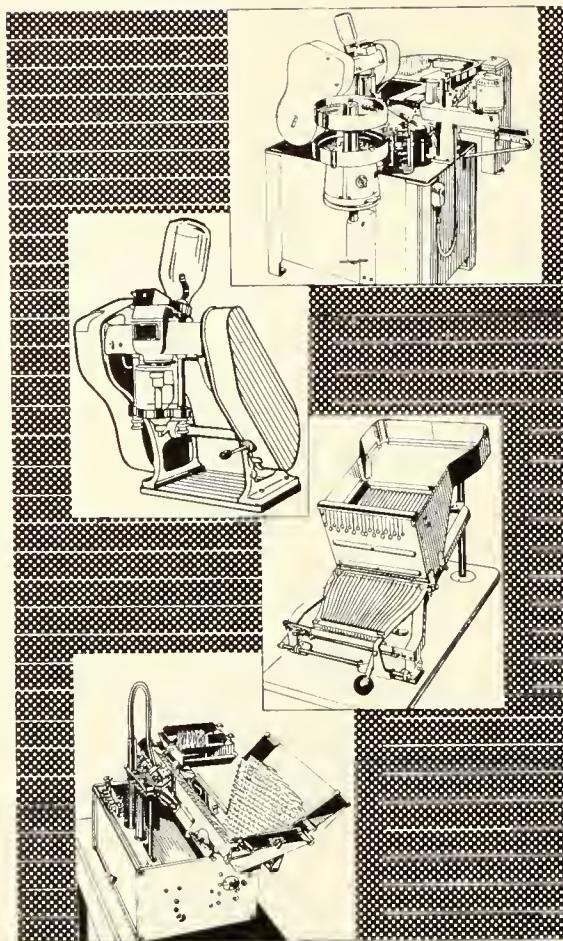
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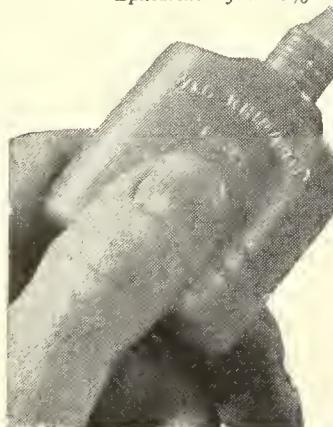
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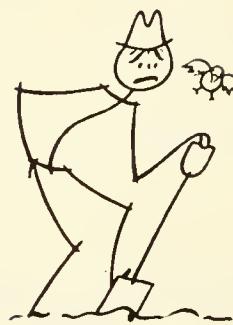


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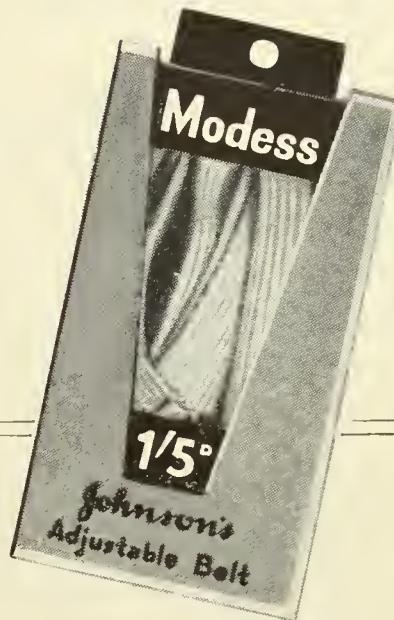
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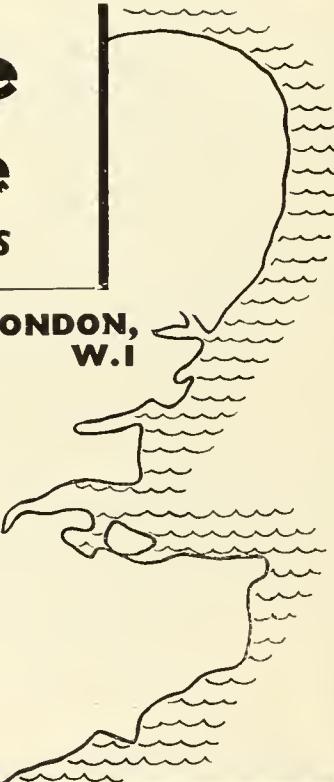
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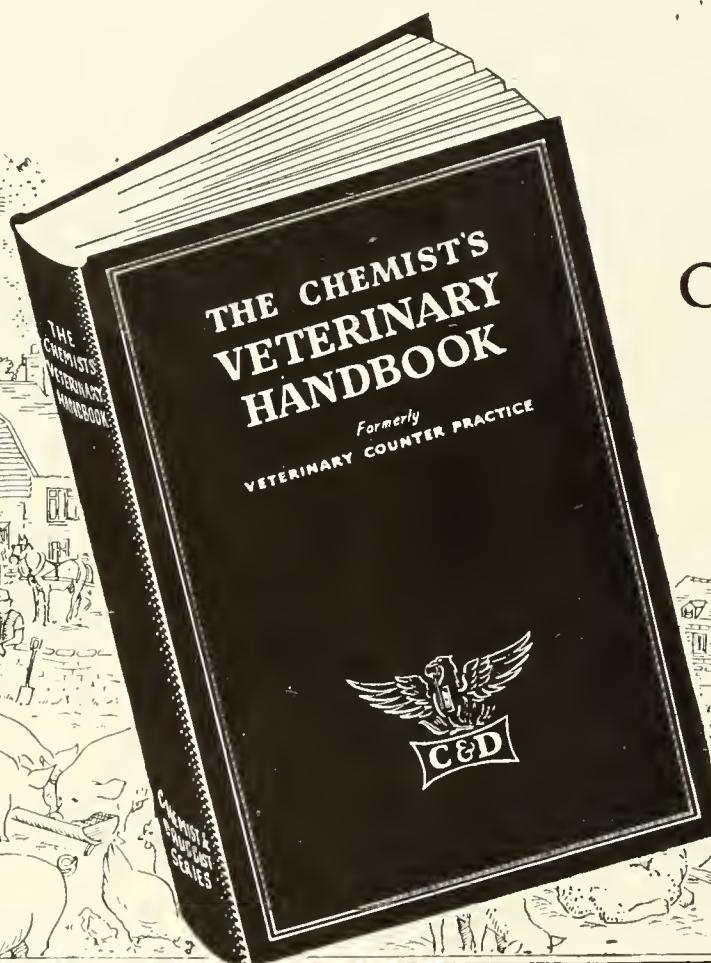
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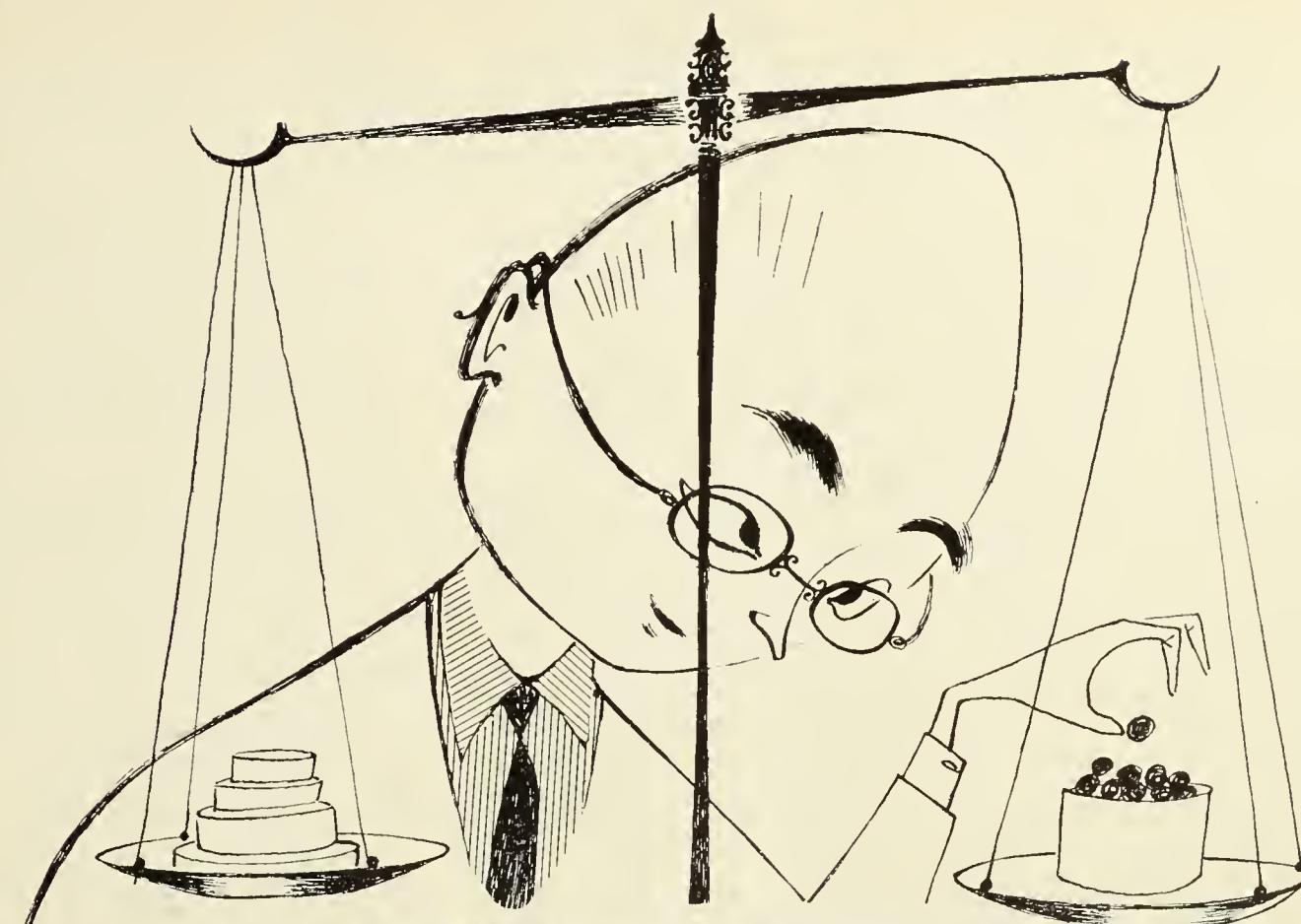
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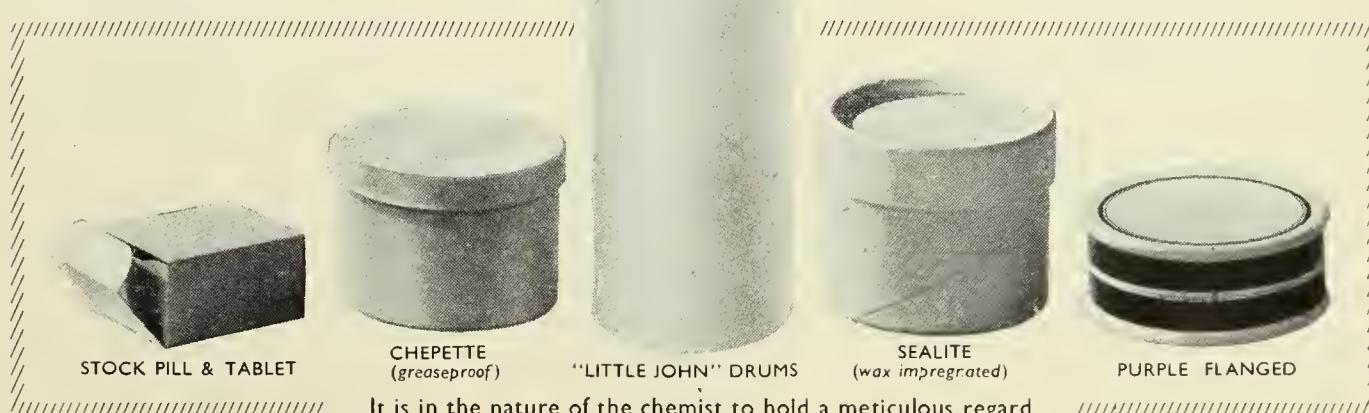

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CAMBRIDGE. Opportunity for chemist optician to acquire an old-established business latterly run as a drug store. Lock-up shop and offices. Long lease available. Moderate figure required for goodwill, fixtures and stock at valuation. Apply Nicholson & Co., 14 Downing Street, Cambridge. C 1587

BUSINESSES WANTED

IN THE ASHE LABORATORIES development programme provision is made for the purchase of one or more cosmetic, toiletry or proprietary medicine businesses. Principals are invited to contact Managing Director with a view to opening negotiations. Ashe Laboratories, Limited, Leatherhead, Surrey. C 396

APPOINTMENTS

ANCOATS HOSPITAL, MANCHESTER, 4

Pharmacist

Applications are invited for the post of Pharmacist. Whitley Council Scale and Conditions. Salary £580—£785 p.a. Applications, stating age and experience, with names of two referees to the General Superintendent. C 8133

BETHNAL GREEN HOSPITAL, CAMBRIDGE HEATH ROAD, LONDON, E.2

Locum Pharmacist

Salary up to 16 guineas a week. Apply to Hospital Secretary, Tel.: ADV. 3413. C 397

ANCOATS HOSPITAL, MANCHESTER, 4

Assistant-in-Dispensing

required. Salary according to age, rising to a maximum of £490 p.a.

Applications, giving details of age, experience and qualifications, to be sent to the General Superintendent. C 8132

BLACK NOTLEY HOSPITAL, BRAINTREE, ESSEX

Assistant-in-Dispensing

required as soon as possible, resident or non-resident. Whitley Council salary and conditions of service. Applications to Hospital Secretary as soon as possible with details of qualifications, previous experience and two referees from whom further particulars may be obtained. C 8119

ANCOATS HOSPITAL, MANCHESTER, 4

Locum Pharmacist

required. Salary £16 16s. per week. Applications to be addressed to the General Superintendent. C 8131

BETHLEM ROYAL HOSPITAL, BECKENHAM, KENT

(Teaching Hospital for mental and nervous disorders)

Locum Pharmacist

required for week commencing August 4, 1958. Salary 16 guineas. Apply to House Governor and Secretary, Bethlem Royal Hospital, Monks Orchard, Eden Park, Beckenham, Kent. C 8156

CENTRAL GROUP HOSPITAL MANAGEMENT COMMITTEE

Locum Dispensing Assistant

required for the following period:

July 7 to 19.

Salary up to £9 11s. 6d. per week, plus London Weighting, according to age and qualifications. Applications to the Chief Pharmacist, St. Leonard's Hospital, Nuttall Street, London, N.1. C 378

CENTRAL GROUP HOSPITAL MANAGEMENT COMMITTEE

Locum Pharmacist

required for the following periods:

July 7 to 26.

September 8 to 20.

Salary up to 16 guineas per week. Applications to the Chief Pharmacist, St. Leonard's Hospital, Nuttall Street, London, N.1. C 377

COLCHESTER GROUP HOSPITAL MANAGEMENT COMMITTEE,

**14 POPE'S LANE,
COLCHESTER, ESSEX**

Dispenser (part-time)

required for 18½ hours per week at Clacton & District Hospital. Whitley Council scale. Applications to Group Secretary. C 8158

GENERAL HOSPITAL, MARGATE

Locum Pharmacist

required. Applications, stating age, qualifications and experience, with names of two referees, to the Hospital Secretary. C 402

KING EDWARD VII HOSPITAL, WINDSOR

Assistant-in-Dispensing

required urgently. Whitley salary. Apply giving particulars and names of referees to Secretary. C 8124

LONDON JEWISH HOSPITAL, STEPNEY GREEN, E.1

Pharmacist

Applications are invited for the post of Pharmacist. Whitley Council salary scale and conditions of service. Applications, stating age, qualifications, experience, and the names of two referees, to the Secretary, Stepney Green H.M.C., Mile End Hospital, Bancroft Road, London, E.1. C 8064

184 STRAND, W.C.2

Tel: TEMple Bar 9212/3 & 6340

LONDON JEWISH HOSPITAL, STEPNEY GREEN, E.1

Locum Pharmacist

required. Salary £16 16s. per week. Applications to the Chief Pharmacist (Tel. No.: Stepney Green 4251). C 8065

LAMBETH HOSPITAL, BROOK DRIVE, S.E.11

Assistant-in-Dispensing

required Whitley Council rates of pay and conditions. Applications, in writing, giving names of two referees to the Secretary. C 390

METROPOLITAN HOSPITAL, KINGSLAND ROAD, LONDON, E.8

(General 146 Beds)

Pharmacist

for modern department. Permanent post vacant due to retirement. Salary £600—£815, plus appropriate higher qualification allowance. Apply with details of age, training and experience to the Hospital Secretary. C 398

MANSFIELD HOSPITAL MANAGEMENT COMMITTEE

Locum Pharmacist

required as soon as possible for the Group Pharmaceutical Department at the King's Mill Hospital, Sutton-in-Ashfield, Notts, for a period of three months in the first instance. Salary £16 16s. per week. This is an opportunity for a young pharmacist to gain experience of hospital pharmacy in a pleasant modern department. Applications to the Group Pharmaceutical Officer, King's Mill Hospital, Sutton-in-Ashfield, Notts. C 8057

METROPOLITAN HOSPITAL, KINGSLAND ROAD, LONDON, E.8

Locum Pharmacist

required immediately. Salary up to 16 guineas a week. Apply to Hospital Secretary. Tel.: CL1ssold 6862. C 392

NAPSURY (MENTAL) HOSPITAL MANAGEMENT COMMITTEE

Nr. ST. ALBANS, HERTS

Locum Tenens Pharmacist

required at £16 16s. per week. Details to the Group Secretary with names of two referees in an envelope to be endorsed "Locum Pharmacist." C 8101

PINEWOOD HOSPITAL, NINE MILE RIDE, WOKINGHAM

Locum Chief Pharmacist

required for two weeks from September 1. Salary £16 16s. per week. Residential accommodation available, £135 p.a. Applications to Secretary. C 8049

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Professional Valuers to the Pharmaceutical Trade.—Wholesale, Retail and Hospital Stocks. Branches throughout England and Scotland.

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Appointments—Continued**NOTTINGHAM No. 1 HOSPITAL MANAGEMENT COMMITTEE, NOTTINGHAM EYE HOSPITAL**

Chief Pharmacist (Category II)

Applications are invited for the appointment of Chief Pharmacist (non-resident) at the above Hospital.

Salary and conditions of service in accordance with Whitley Council Regulations.

Applications giving full particulars together with the names of three referees to be sent as soon as possible to the Group Secretary, General Hospital, Nottingham. C 408

NAPSBURY (MENTAL) HOSPITAL MANAGEMENT COMMITTEE

Nr. ST. ALBANS, HERTS

Senior Pharmacist

Applications are invited for the above post, £650 x £30 (6)—£830. New pharmacy completed 1957.

Applications to the Group Secretary, with names of two referees, endorsed "Senior Pharmacist." C 8102

PINDERFIELDS GENERAL HOSPITAL, WAKEFIELD

Assistant-in-Dispensing

required. Apothecaries' Hall Certificate preferred. Whitley Council salary scale applies. Address written applications, giving full personal particulars and two names and addresses for reference, to W. BOWRING, Group Secretary, Pinderfields General Hospital, Wakefield. C 8161

STAINES GROUP HOSPITAL MANAGEMENT COMMITTEE, ASHFORD HOSPITAL, ASHFORD, MIDDLESEX

Pharmacist

required on salary scale £580 to £785 per annum, plus London Weighting Allowance. OR Locum Pharmacist, salary £16 16s. per week. Applications, stating age, qualifications and experience, with copies of up to three recent testimonials, to Medical Director of Hospital immediately. C 385

ST. LEONARD'S HOSPITAL, NUTTALL STREET, LONDON, N.1

Senior Pharmacist

Permanent post in modern department. Salary £650 to £830, plus appropriate London Weighting and high qualification allowance. Apply with details of age, training and experience to Hospital Secretary. C 400

ST. ALBANS CITY HOSPITAL, NORMANDY ROAD, ST. ALBANS, HERTS (384 Beds)

Senior Pharmacist (Category III)

A vacancy will occur in September at the above general Hospital within easy reach of Central London. Whitley Council salary and conditions. Applications stating age, qualifications and experience to the Chief Pharmacist. C 8160

ST. LEONARD'S HOSPITAL, NUTTALL STREET, LONDON, N.1

Locum Pharmacist

required immediately. Salary up to 16 gns. a week. Apply to Hospital Secretary. Telephone: Clerkenwell 2901. C 401

THE OLD MANOR HOSPITAL, SALISBURY, WILTS

Dispenser

required. Salary and conditions of service are in accordance with the recommendations of the appropriate Whitley Council, £375—£490 per annum, plus £20 per annum if holding the Certificate of the Society of Apothecaries of London or qualification approved by the Minister of Health as its equivalent. Appointment is subject to the provisions of the National Health Service (Superannuation) Regulations, 1955. Applications, with names and addresses of two referees should be sent to the Group Secretary, Knowle Hospital, Farham, Hants. C 8151

WEST MIDDLESEX HOSPITAL, ISLEWORTH, MIDDLESEX

Assistant-in-Dispensing

required in Pharmaceutical Department for varied duties. Salary £395 per annum at age 22, rising to £520 (additional payment of £20 per annum for suitable qualification). Apply, giving names of two referees to the Chief Pharmacist. C 406

ROYAL NATIONAL THROAT, NOSE & EAR HOSPITAL, GRAY'S INN ROAD, LONDON, W.C.1

Assistant-in-Dispensing

required for August. Apothecaries' Hall Certificate. Hospital experience preferred. Whitley Council conditions and rates of pay. Apply personally or write to Chief Pharmacist. C 8051

ST. PETER'S HOSPITAL, CHERTSEY, SURREY

Pharmacist and Assistant-in-Dispensing

required. Whitley Council conditions. Hospital in pleasant rural surroundings within easy reach London. Temporary accommodation available for single woman. Salaries: Pharmacist £580 to £785 according to experience. Assistant-in-Dispensing (age 22 or over) £375 to £490. Applications, stating age and experience, giving two referees to Administrative Officer. C 8146

WHITTINGTON HOSPITAL, HIGHGATE HILL, LONDON, N.19

Deputy Chief Pharmacist (Category IV)

required for St. Mary's Wing. Whitley Council salary and conditions. Candidates are invited to visit the Hospital by appointment with the Medical Superintendent (ARC. 3070 Ext. 440). Detailed applications naming two referees to Group Secretary (Dept. P.7), Archway Group H.M.C. 46, Cholmeley Park, N.6, within 10 days. C 8155

WEST MIDDLESEX HOSPITAL, ISLEWORTH, MIDDLESEX

Pharmacist

for Main Pharmaceutical Department. Salary £580—£785 per annum, plus London Weighting. Whitley conditions and assimilation point in salary scale according to experience. Apply giving age, qualifications and experience, with names of referees to the Chief Pharmacist. C 405

PUPILS**GENERAL HOSPITAL, SOUTHEND-ON-SEA**

Students

required in the pharmacies of the hospitals in the Southend-on-Sea Group from September 1, 1958. Salary for post-graduate students, £385. The hospitals are situated in pleasant surroundings and the posts offer excellent opportunities for experience in all branches of pharmaceutical work including dispensing for in-patients and for patients from a busy consultative out-patient department, manufacturing, sterilising, dressings and instruments. Applications stating age, particulars of education, etc., with the names of two referees, should be sent to the Secretary at the General Hospital, Southend-on-Sea, as soon as possible. C 8159

EDUCATIONAL**LONDON COLLEGE OF PHARMACY AND CHEMISTRY FOR WOMEN**7 Westbourne Park Road, W.2
Established 1892

The only College in S.E. England teaching exclusively for the Assistants-in-Dispensing Examination of the Society of Apothecaries. Enrolling now for six months' full-time or 2-year part-time courses for Student Dispensers under 1956 Regulations. 83·3 per cent. Examination successes in 1957. C 404

PLYMOUTH AND DEVONPORT TECHNICAL COLLEGE

Principal: John Graymore, M.Sc., Ph.D., F.R.I.C., F.C.S.

Department of Pharmacy

Required September, or as soon as possible thereafter, Assistant Grade "B," Pharmaceutical subjects. Candidates should possess Pharmaceutical Chemists' Diploma and/or Degree in Pharmacy.

Salary in accordance with Burnham Scale for Teachers in Technical Colleges (Men £650 by £25 to £1,025, Women £580 by £20 to £820 plus equal pay increments for Women). Application forms and further particulars from the Clerk to the Governors, Education Office, Cobourg Street, Plymouth, to whom forms should be returned. C 8150

SITUATIONS VACANT**RETAIL (HOME)**

MEDWAY TOWNS. Young Pharmacist required for work mainly in busy dispensing department. Excellent flat available for married man with small family. Very good working conditions. Salary £1,000 plus commissions. Apply W. E. Coles, Ltd., 27 Darnley Road, Strood, Kent. C 1528

NEAR DERBY. Unqualified manager or partner required for drug stores—formerly pharmacy. Toilet agencies, Kodak, with wine and spirit licence. House attached. Excellent opportunity for energetic man wishing to make progress. References please. Apply G. S. Daykin, 9 Nether Edge Road, Sheffield, 7. C 1595

OLDHAM CO-OPERATIVE CHEMISTS. LTD., invite applications for position of pharmacist branch manager. Accommodation, modern house made available, if necessary. Superannuation, Salary and other emoluments, £930. Applications, stating age, experience, etc., to Oldham Co-operative Chemists, Ltd., King Street, Oldham. C 388

TIMOTHY WHITES, CHEMISTS,

invite applications from students seeking post-graduate experience before registration with the Society. Vacancies in many parts of the country. Good conditions and remuneration. Sound professional and business method training. Opportunities for secure and lucrative careers in Retail Pharmacy. Apply giving all details and stating district desired to :

Mr. A. Bailey, M.P.S., Timothy Whites & Taylors, Burley Hill, Leeds 4.

Mr. W. S. Stokes, M.P.S., Timothy Whites & Taylors, Allen House, 70 Vauxhall Bridge Road, London, S.W.1.

C 8127

WHOLESALE**ALLIED LABORATORIES LIMITED**

Medical Representatives

As a result of reorganisation and expansion, applications are invited for vacancies in the following territories:

1. West London.
2. Cheshire and South Lancashire.
3. Sussex.

Previous experience in representative work is desirable but not essential as training will be given. A sound pharmaceutical and/or medical background is, however, necessary. Applicants should hold a current driving licence and reside in the area for which applying. Remuneration is by salary and expenses and a car is provided. An attractive Life Assurance and Pension Scheme is also in operation. Applications, giving details of career to date, should be addressed to Sales Manager, Allied Laboratories, Ltd., 140 Park Lane, London, W.1. C 399

AN established company manufacturing high-class products requires a salesman to take over a connection in Bristol, S. Wales and West of England. Must be capable of developing sales to the chemists, departmental stores and hardware trade. Advertised lines at competitive prices. Salary, commission, bonus. Expenses. Car or car allowance. Details of age. Experience in confidence, please. Box C 1589.

SANDOZ PRODUCTS LIMITED**require a Pharmacist**

Applications are invited from male pharmacists for a post in the London Office of Sandoz Products Ltd.

Candidates should not be more than 35. Previous hospital or industrial experience and the possession of a higher qualification are desirable but not essential. Attractive remuneration commensurate with experience; bonus scheme; five-day week; generous Pension and Accidents Insurance Schemes, etc.

Applications in writing, including a summary of career, should be addressed to:

**THE MANAGEMENT, SANDOZ PRODUCTS LIMITED,
SANDOZ HOUSE, 23 GREAT CASTLE ST., LONDON, W.I.**

C. 8130

REPRESENTATIVES

**WANTED ALL AREAS FOR
QUICK SELLING SPECIALITY.**

GOOD COMMISSION PAID.

**APPLY IN WRITING
STATING TERRITORY COVERED TO**

**MELLIN'S FOOD LTD.,
102 NAYLOR ROAD, PECKHAM, S.E.15**

C 8129

Situations Vacant—Continued

ALERT representatives (commission basis) required by rapidly expanding manufacturers of well-known branded household commodity appealing to and sold by almost all chemists, hardware shops, stores and wholesalers. Present reorganisation offers excellent opportunities—with many live accounts—to four or five representatives covering at least two of the following areas:—Devon, Cornwall, Wales, Herefordshire, Gloucestershire, Somerset, Dorset, Wiltshire, Hampshire, Berkshire, Oxfordshire, Surrey, Sussex and Kent. Car and good connections chemist/hardware retail and wholesale essential. High commission income through thorough coverage. Box C 8143.

An old-established firm of wholesale and manufacturing chemists in Yorkshire requires a representative, resident in Lancashire, to take over existing territory there. Applicants must have experience and connections and be capable of expanding sales in that area. Remuneration by salary, commission and expenses. C 8128

IMPORTANT MANUFACTURERS with progressive policy marketing nationally advertised hair preparations require senior sales representatives for Lancashire and Yorkshire areas. Must have sound experience of selling proprietary cosmetics to chemists and stores. This appointment offers considerable prospects with good basic salary, commission and expenses. Write fully in strict confidence to sales director. Box C 8147.

MEDICAL REPRESENTATIVES

A progressive, leading Pharmaceutical Company has vacancies for Medical Representatives in the following parts of the United Kingdom.

- (1) London (all postal districts).
- (2) Lancashire (South and North-west).
- (3) The Midlands.
- (4) Somerset and Devon.
- (5) Sheffield.

Applications are invited from Pharmacists or men with pharmaceutical experience to fill these positions where enthusiasm and hard work will be rewarded by good conditions of service and assured future. Applications giving full details of career to date should be addressed to Box C 7988.

UCAL — LONDON REPRESENTATIVE

Applications are invited from experienced men to represent the Company in North London including Essex. A wide knowledge of all aspects of the Chemists' Trade is needed.

Permanent post with good remuneration and pension scheme.

The position on the territory is established but has great possibilities.

Apply with full details in strict confidence to Sales Manager, United Chemists Association Limited, Ucal Works, Cheltenham.

C 8157

PARKE, DAVIS & COMPANY, LIMITED

Applications are invited from Pharmacists up to 35 years of age, who are interested in making a career as a medical representative in the following territories:

1. North London.**2. Hertfordshire and Bedfordshire.**

Previous experience is unnecessary as thorough training will be given, but applicants should have a good pharmaceutical background and a keen interest in ethical pharmacy.

Initial salary will be based on age and experience, subsequent adjustment will recognise initiative and ability. Company car provided. A generous Pension and Life Assurance Plan is in operation.

Please write in the first instance, giving details of age, education, qualifications and experience, to the Home Sales Manager, Parke, Davis & Company, Limited, Staines Road, Hounslow, Middlesex. C 8152

PARKE, DAVIS & COMPANY, LIMITED

Applications are invited from Pharmacists up to 40 years of age for a special representative appointment in North-west England. Applicants should preferably have had hospital experience, as the work involved will be mainly in hospitals in the above areas. Initial salary will be based on age and experience, and subsequent adjustment will recognise initiative and ability. A company car will be provided. A generous pension and life assurance plan is in operation. Please write in the first instance, giving details of education, qualifications and experience to Home Sales Manager, Parke, Davis & Company, Limited, Staines Road, Hounslow, Middlesex. C 8153

REPRESENTATIVE REQUIRED for Home Counties, Surrey-Hants, to handle cotton wool and other dressings on a part expenses and commission basis. Must be well known and capable of extending the substantial turnover existing. Men also required for Midlands-South West counties and Yorkshire. Full details to Box C 1591.

WANTED. Assistant lady or gentleman chemist with qualification or experience for the analysis of food and drugs in a factory in pleasant surroundings in the Watford district. Five-day week, canteen and recreational facilities. Please write giving all details and salary required to Box C 8148..

AGENTS WANTED

AGENTS REQUIRED in some areas by reputable company for selling a unique untaxed edible product that truly sells on sight and repeats on merit all the year. Superbly packed and shows liberal profit, 15 per cent, commission. Other excellent sellers available if required. Fullest details, please, including area covered, past experience, other lines carried and if car owner. Box C 1598.

**PLASTIC BABY PANTS, BIBS,
APRONS**

Manufacturers of Plastic Baby Pants, Bibs and Cot Mattress Covers, supplying direct to Retail Chemists, seek Representatives or Agents to handle above-mentioned lines on excellent commission terms. Keenest prices, prompt deliveries. All areas available at present.

Replies to Box C 1567 indicating area regularly covered.

WELL-KNOWN manufacturers of nationally distributed proprietaries urgently require a good selling agent on commission basis in Midlands and another in South Wales. Age immaterial, but applicants must be well introduced to the trade. Box C 8144.

Are medical reps that hard to get?

I was talking to a friend of mine the other day about my need for thirty representatives to form the nucleus of a new ethical sales organization.

"*I have been in this business for fifteen years,*" he said, "*and I can tell you straight away, you'll have a job getting them.*" He went on, "*Every pharmaceutical company in the country is moving heaven and earth to get just a few new men, so what makes you think you can get thirty in a matter of weeks?*"

I must admit that this kind of talk shook me a little but undaunted, I replied, "*Well, I think I'll get them because I believe that there are still men who are looking for an unusual opportunity to get ahead and are willing to work hard in the process. By joining us now these men can get in on something really good. First of all they will be associated with a company that already has an established sales volume in the United Kingdom. On top of that they'll be promoting only products of original research developed in the laboratories of our two companies in the United States—The Wm. S. Merrell Company and The National Drug Company. Additionally, there will be ample opportunity for advancement in a rapidly growing concern. This is a real chance to get in on the ground floor.*"

My friend shot back, "*But what about experienced salesmen, do you think that they are just going to pack up whatever they are doing and come running to you?*"

I picked up my drink, took a sip and said, "*I'll bet a fiver that some will and I'll be glad to have them, but I am not especially looking for all experienced men. I'm just as anxious to find intelligent, young chaps around 25 with ideas, imagination and enthusiasm who want an interesting well-paid position. And they must be willing to learn to apply their talents to the special needs of the pharmaceutical business. On our part, we'll provide a first-class training course, adequate progressive remuneration and a company car.*"

My friend pushed himself away from the table and remarked, "*Well, you certainly seem to be offering a good deal, and I wish you the best of luck.*" He turned to leave, paused, and then said, "*By the way, after you've picked your thirty, will you send the rest over to me?*"



If you are looking for the type of opportunity I described, please send all relevant information including age, education and experience to :

The Managing Director

Merrell-National (Laboratories) Ltd.
20 Savile Row, London, W.1

ROCHE**THE CHANCE OF A STEADY CAREER**

Opportunities are offered to outstanding young men with drive and initiative wishing to start as medical representatives. A pharmaceutical qualification/experience or equivalent academic attainment essential. Vacancies occur in:

1. London/Essex. 2. London/Kent.

3. Yorkshire (W. Riding). 4. N.E. England.

with further developments contemplated. Applications from other areas will receive consideration. Training commences October. Good salary, exceptional pension scheme, full expenses; successful applicants are assisted to own their own cars. First-class candidates desiring success and security should apply with full details to the Secretary, Roche Products Ltd., 15 Manchester Square, London, W.1. Applications will be treated as confidential.

C 8118

SITUATIONS WANTED**RETAIL (HOME)**

CHEMIST'S ASSISTANT, lady, experienced (all leading agencies), good personality, highest references, family medical background, desires London post. Accommodation essential. Box C 1594.

WHOLESALE

GENTLEMAN, 20 years' experience retail pharmacy, 5 years medical representative, seeks position with ethical house for S.E. London. Whole of London covered as representative. Box C 1596.

STOREKEEPER requires post, experience in all classes of medical equipment, drugs, surgical instruments, path. lab. equipment, etc. Midlands or Yorkshire. Box C 1590.

S.R.N., R.M.N. (male), aged 38, experienced representative, driver, excellent commercial experience, seeks post with reliable ethical house (as representative) where loyalty and integrity are appreciated. Salary £740. Box C 1588.

PHARMACIST (43), due conversion manufacturer to wholesaler, requires production post shortly, steriles, general pharmaceuticals. Also interested automatic and electronic methods. Box C 1597.

TRAVELLER desires change, offering greater opportunity. Good experience and connection London area. Would also consider responsible inside position. Box C 1571.

AGENCIES WANTED

COMPANY having considerable connection with chemists throughout the U.K. able to handle further lines including surgical dressings and to promote sales of ethical products doing sampling and propaganda to hospitals and the medical profession. Box C 1953.

BUSINESS OPPORTUNITIES

A PHARMACEUTICAL COMPANY of substantial size and reputation desires to acquire an interest in a small or medium-sized provincial firm of Pharmaceutical Wholesalers having an established local business for the distribution of Ethicals. The firm should be located within 100 miles of London. Apply Box C 8075.

BE WISE—stock and sell PATON'S DENTAL OINTMENT. The Original. The C.F. product specially formulated for mouth ulcers, sore gums, cut and sore tongues, cold sores, chapped lips. For NEW OR OLD DENTURES, relieves the pain and discomfort of sore spots and mouth ulcers. IT SELLS ALL THROUGH THE YEAR. There is NOTHING LIKE IT. Now being widely advertised. Packed in counter display outer of one dozen tubes. Retails at 2/3d. per tube. Top rate profit, and repeat business assured. Order from Thornton & Ross, Ltd., Linthwaite Laboratories, Huddersfield, C 1489. Sole distributors.

MANUFACTURING FACILITIES AVAILABLE for a variety of chemical and allied products. Any proposition investigated and strictest confidence observed. Write Box C 1555.

BERDOE & FISH

Chemists' Transfer Agents and Valuers

41 ARGYLE SQUARE, KING'S CROSS, W.C.1
(opposite St. Pancras and King's Cross Stations)

Wanted immediately good class businesses in London, Home Counties and South Coast. Private clients waiting with cash up to £10,000.

● All Valuations and Stocktakeings, carried out under personal supervision of principals.

Established 1870

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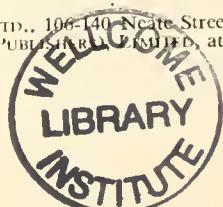
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